

Manufacturers Record

Reg. U. S. Patent Office



MARCH 1935

BALTIMORE, MD.

MAR 8 1935

ONE YEAR'S SPENDING

Our Federal appropriation bill, as proposed for one year, is nearly five per cent of our total national wealth. It is one-fifth of the total gross income of the nation for 1933. It is double—twice—the total cash income for 1932 of all the farmers of the United States. It is nearly five times the total net incomes returned by all corporations for 1932. It is three times the total net taxable incomes of individuals for 1932. A tax of one per cent on products of manufacture would yield the government only \$250,000,000. Therefore we are spending this year a sum equal to the yield of a sales tax on products of manufacture of 36 per cent.

—From an article in this issue by
U. S. Senator Harry Flood Byrd.



Fig. 4
Fig. 4
Screw

MA

Jenkins Announces the "TWIN-BOLT" GATE!

New!



Fig. 40, All-Iron
Fig. 42, Bronze Mounted
Screwed and Flanged

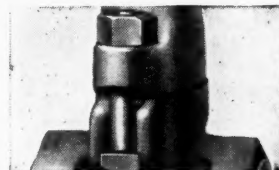
Rugged... Efficient... Low in Price

This new Fig. 40 Jenkins TWIN-BOLT Iron Body Gate Valve will be welcomed by many valve users. It exactly "fills the bill" on jobs where good Gates are required, but where an investment in "life-time" Jenkins Bronze and Iron Body Gates cannot be justified.

While low in price, this TWIN-BOLT Gate is not a "cheap-quality" valve. It is well and carefully made and bears the famous "Diamond" trade mark... an assurance that it will give an extra good measure of service. Below are listed some of the features which make this new valve a real "Jenkins".

"Twin-Bolt" Design Adds Convenience

No need for special clamps or bolts to secure bonnet to body. Two steel bolts become sufficient. This means quick, easy disassembly. No chance of distorting body when tightening nuts. An advantage, if a bolt should break as it can be easily replaced.



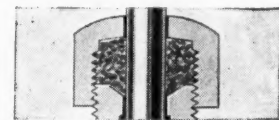
Tapered, Reversible, Double-Faced Wedge

Has a sharply tapered, reversible wedge, with accurately machined seating surfaces, and a slip-on feature. When valve is fully open the wedge is entirely lifted from line of flow. Bronze mounted valves have brass seat rings.



Extra Large Capacity Stuffing Box Nut

A big stuffing box nut which holds an exceptionally large quantity of packing is a worthwhile feature. It means less frequent maintenance and reduces friction on spindle for easier operation.



Every Valve Tested and Rated

Each Valve is individually tested and a high factor of safety maintained. Pressure ratings for steam, oil, water, gas are cast on the body.



Also the "TWIN-BOLT" Gate has a strong spindle of correct length, with accurately machined threads that provide strength with fast operation. All types can be repacked under full pressure when in open position.

You can get Jenkins TWIN-BOLT Gates in sizes to 4 inch. All-Iron or Iron Body Bronze Mounted types. Mail coupon, or ask your supply house for folder No. 159 which gives full details.

JENKINS BROS., 80 White Street, New York, N.Y.; 510 Main Street, Bridgeport, Conn.; 524 Atlantic Ave., Boston, Mass.; 133 No. Seventh Street, Philadelphia, Pa.; 822 Washington Blvd., Chicago, Ill.; JENKINS BROS., Ltd., Montreal, Canada; London, England

JENKINS BROS., 80 White Street, New York, N.Y.

Send your new illustrated folder No. 159 which gives full details on the new Jenkins TWIN-BOLT Gate Valves.

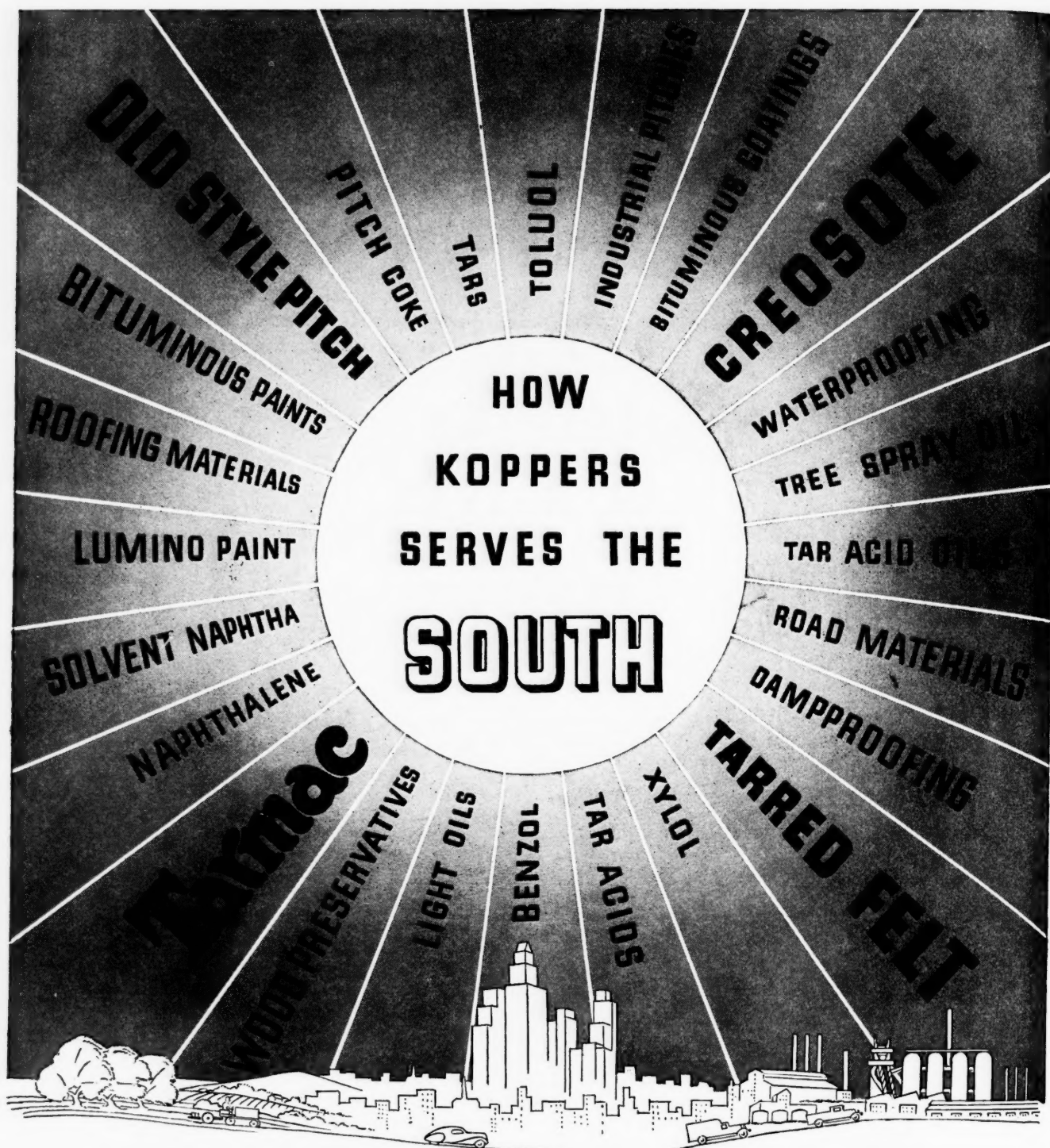
Name and Title _____

Company _____

Address _____

Entered as second-class matter at the postoffice, Baltimore, Md., under the act of March 3, 1879 Volume CIV, No. 3 Monthly

MARCH NINETEEN THIRTY-FIVE



Koppers serves the South by providing the materials for tar roads that are safe, non-skid and economical . . . tar roofs that are proof against the current failures of smooth-top roofings . . . preservative materials that protect wood against the wood-destroying forces so active in the south . . . waterproofing materials which protect buildings and public works against the attacks of moisture . . . tar-base

paints that resist corrosion and heat . . . industrial products which are valuable contributions to the growing Southern industries.

With these and other products, Koppers is helping the South to protect itself against various destructive processes. *Koppers products protect.* We would like to have you consider Koppers products when you are buying.



KOPPERS PRODUCTS COMPANY

SOUTHERN HEADQUARTERS: BIRMINGHAM (WOODWARD), ALABAMA
OFFICES: PITTSBURGH, PA.

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**MARCH
1935**

Volume CIV No. 3

MANUFACTURERS RECORD

Devoted to the Upbuilding of the
Nation Through the Development
of the South and Southwest as the
Nation's Greatest Material Asset

Published Monthly

by the
**MANUFACTURERS RECORD
PUBLISHING CO.**

Frank Gould, President

Main Office: Manufacturers Record Building, Commerce
and Water Streets, Baltimore, Md.

Branch Offices:
New York—11 W. 42nd St.
Chicago—10 S. LaSalle St., Room 608

Subscription Rate: \$2.00 a year (in advance). Single
copies, 25c; back numbers, one to six months, 50c each;
over six months, \$1.00. Combination rate for Manufac-
turers Record and Daily Construction Bulletin, \$10.50
a year.

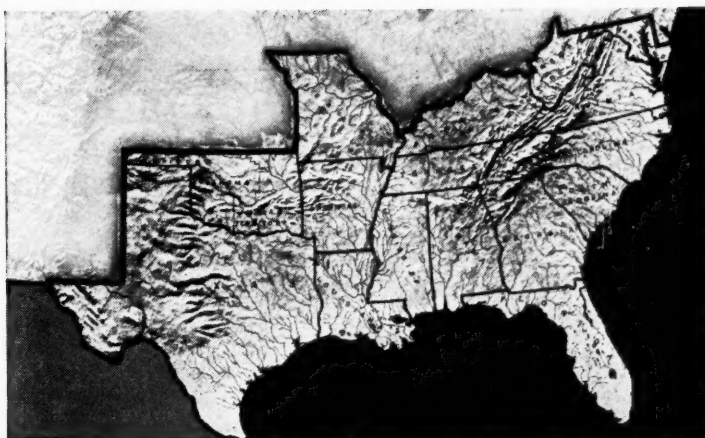
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**PUBLISHERS DAILY CONSTRUCTION BULLETIN AND
BLUE BOOK OF SOUTHERN PROGRESS**



Member
A.B.C.

MARCH NINETEEN THIRTY-FIVE



The South has 31.8 Per Cent of the Land Area and 33.4 Per Cent of the Population of the United States.

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In Youngstown's laboratories scientists are constantly probing deeper into the uncharted areas of steel metallurgy. From their tireless experiments emerge new alloys, more accurate processes, anticipating the demand of tomorrow's industries.

**THE YOUNGSTOWN SHEET
AND TUBE COMPANY**
Manufacturers of Carbon and Alloy Steels
General Offices - YOUNGSTOWN, OHIO

JUST WHAT SHOULD THE

railroads

HAUL?



Goods, of course. More and more goods if they are to enjoy prosperity.

But, in 1930 (the last nearly-average year of freight car loadings) almost three-fifths of all the ton-miles of freight car movement was represented by the weight of the cars themselves.

That is the great railroad operating problem: too much dead weight to be started and stopped and hauled around the country.

An average freight car, if built of Aluminum, would show at least a 20% increase in revenue-producing freight. A single hopper-car constructed of Aluminum will show increased revenues, and operating economies, which will net 10% a year on the additional investment in Aluminum.

Consider any one of these figures in the light of the fact that there are something like 2,000,000 freight cars in operation, and the fundamental importance of weight reduction in rail-

road operation becomes obvious. Economies of this magnitude are of national significance.

As railroad men have come to grips with this problem of dead weight, they have found Aluminum Company of America prepared to help them to an intelligent solution.

Strong alloys are ready, and wide experience in fabrication, too, that is at the command of any railroad, any car-builder, or any other fabricator for the railroads. Processes have been developed for forming special shapes which in turn make possible great advances in rolling stock design.

We believe that these forward-looking preparations are part of our obligation to American industry.

The law of gravitation cannot be voided, but with Aluminum, its cost in railroading can be minimized. This is one way the railroads can move forward via fundamentals. ALUMINUM COMPANY OF AMERICA, PITTSBURGH.

forward via fundamentals

Install
BLAW-KNOX
DUST COLLECTORS
 to avoid the *menace*
 of
SILICOSIS
 and other industrial diseases

Write for particulars



Blaw-Knox DUST COLLECTION SYSTEMS are used by these Industries:

Aluminum	Asbestos	Talc	Chemical	Automotive
Steel	Asphalt	Foundries	Dyes	Brewing
Flour	Glass	Lime	Abrasives	Cleaning
Insulation	Rubber	Pigments	Paper	Machine Shops
Coal	Cement	Tin	Cocoa	Metallurgical

BLAW-KNOX COMPANY

Farmers Bank Building

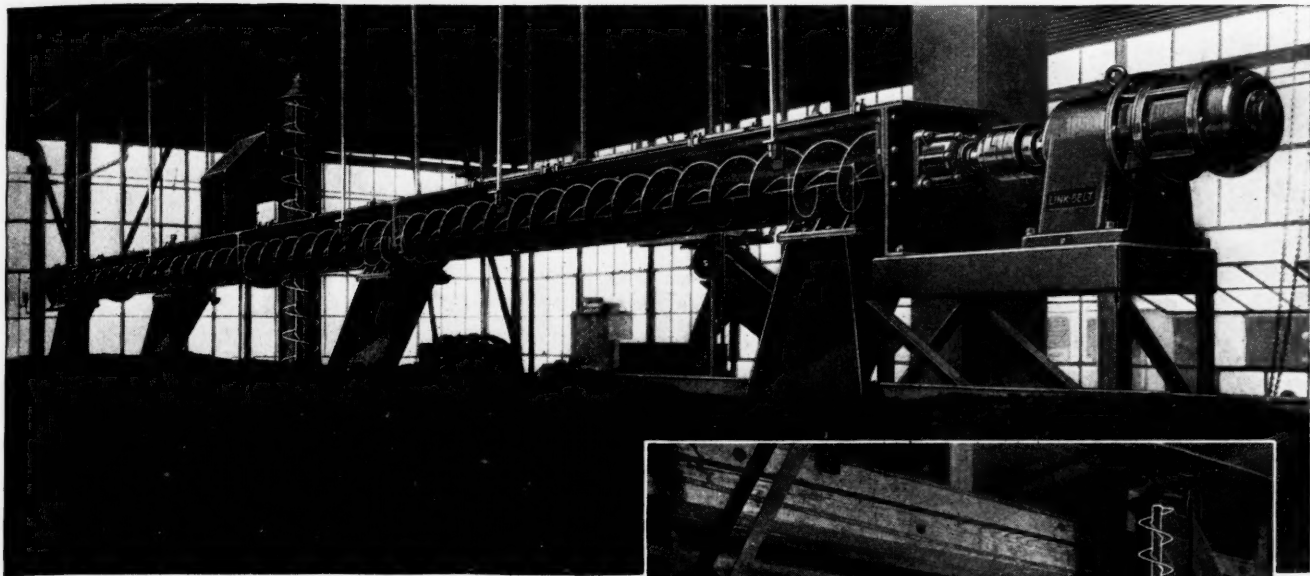
Pittsburgh, Pa.

Offices and Representatives in Principal Cities

ORIGINAL CALDWELL CONVEYOR

FOR CONVEYING AND ELEVATING

Made by LINK-BELT

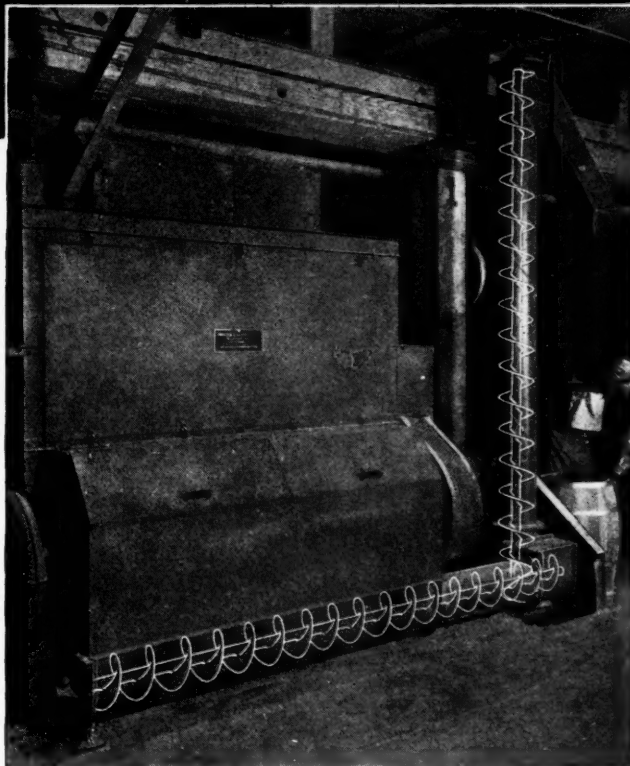


Caldwell Rotor Lift and Helicoid Conveyor distributing material over drying rack.

CALDWELL Conveyor is an ideal medium for handling industrial chemicals in bulk. It makes a simple and compact installation; low in first cost, fully enclosed and dust-proof, and easy to install and service. The screw principle can be successfully applied to both horizontal and inclined conveyors, and is frequently used for elevating some materials vertically. It is well adapted for use in batching, blending, mixing, cooling and drying operations.

Original Caldwell Helicoid is made only by Link-Belt. It is the continuous screw conveyor, with flights rolled from a single strip of metal. It is strong, durable, long lived. Helicoid is interchangeable, size for size with corresponding sectional flight conveyor.

Prompt shipment of conveyor and all accessories can be made from stocks carried by jobbers and at the factory. Send for catalog.



Reclaiming and elevating soap chips for packaging.

LINK-BELT COMPANY

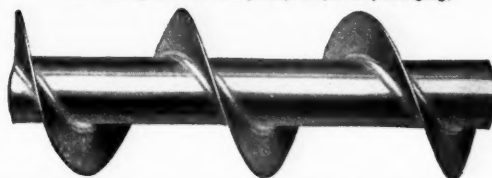
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*The Leading Manufacturer of
Equipment for Handling Materials and Transmitting Power*

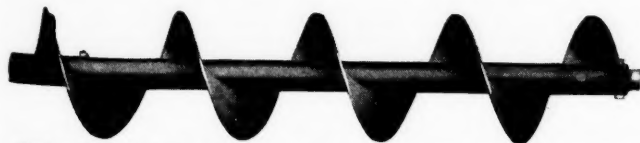
CHICAGO
ATLANTA
Baltimore

PHILADELPHIA
SAN FRANCISCO
New Orleans

INDIANAPOLIS
TORONTO
Offices in Principal Cities



Stainless steel Helicoid conveyor, mounted on stainless steel seamless tubing. We have had wide experience in fabricating conveyors of aluminum, ambrac, bronze, copper, monel metal and stainless steels of various analyses.

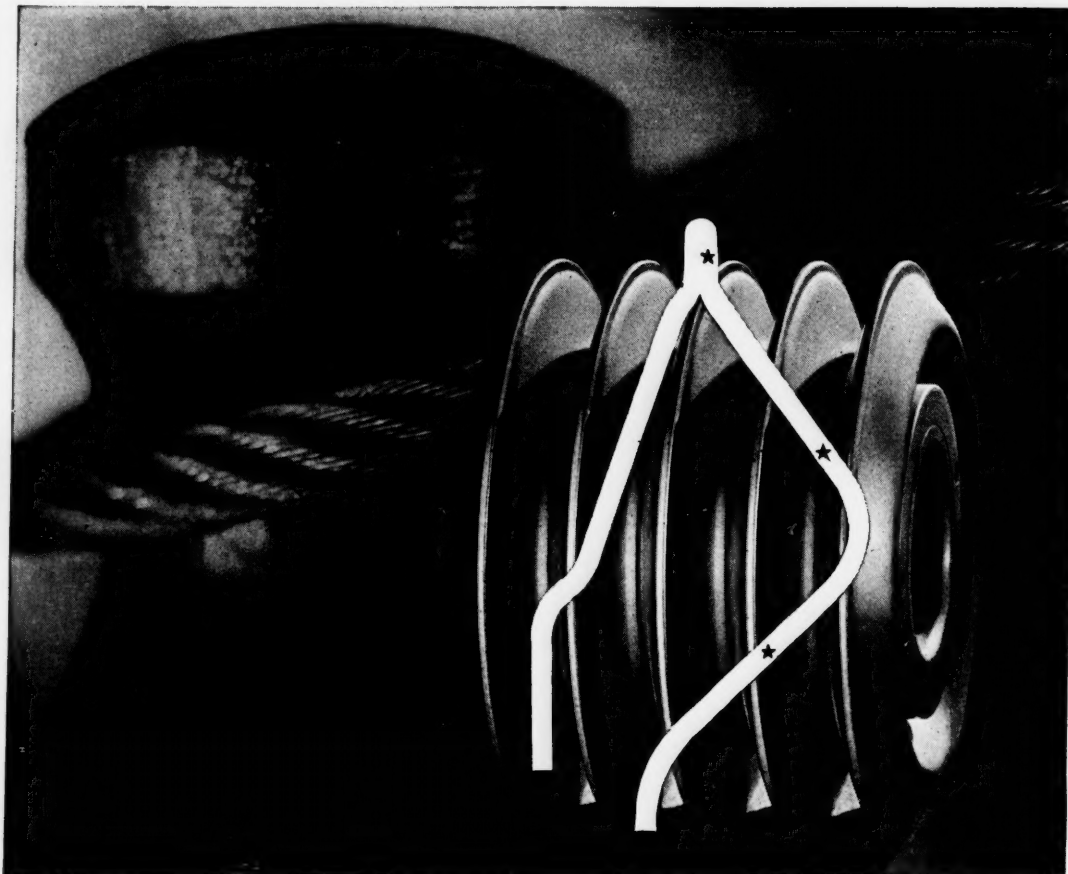


Original Caldwell Helicoid conveyor. The continuous screw conveyor, with flights rolled from a single strip of metal.



Caldwell-Moore Sectional Flight Conveyor. It is easy to renew, and is obtainable in odd diameters and pitches, or with screw of unusual size.

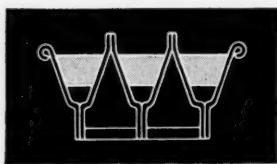
MARCH NINETEEN THIRTY-FIVE



STRENGTH

A mere two and one half inches of steel wire, in the form of a hawser, can handle 330,000 pounds of ship . . . if properly constructed and properly spliced. • A mere seven pounds of high grade pressed steel, in the form of a rotating sheave, can transmit 330,000 foot pounds of power per minute . . . if properly designed and properly fabricated. • The newly designed Duro-Brace Texsteel Sheaves, for Texrope V-Belt Drives, can do this and do it day in and day out under the severest conditions, for, in the new Duro-Brace design, the outside walls are reinforced by convex steel plates, which so greatly increase their strength as to eliminate distortion, thus giving a true-running, vibrationless drive always. • Texrope Drives are 98.9% effi-

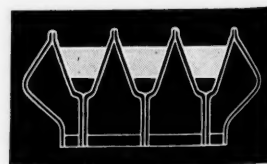
Former Design:
cross-section show-
ing unsupported
outside plate.



cient, silent, slipless, shock-absorbing, require no belt dressing or lubrication, and are not affected by dirt or moisture. • Mail us a card asking for Bulletin No. 2188 which sets forth the advantages which Duro-Brace Texsteel Drives offer you in all matters of power transmission, whether they be simple or complex.

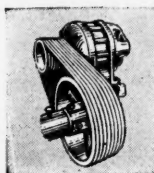
★ ★ ★

*New Duro-Brace
Design: cross-sec-
tion showing out-
side plate braced
by a convex rein-
forcing steel plate.*



TEXROPE

ORIGINATED BY
ALLIS-CHALMERS MANUFACTURING



DRIVES

ALLIS-CHALMERS

COMPANY • MILWAUKEE, WISCONSIN

MANUFACTURERS RECORD FOR

MEN..MACHINES.. AND *Money!*

Industry's *Big Three* call
on "Lubrication Profit" to
help End a Depression

WHAT'S HAPPENING in industry? The yard of cloth that formerly sold for twenty cents now sells for fifteen. The "big car" of yesteryear, better made than ever, now carries a "popular price" tag on its bumper.

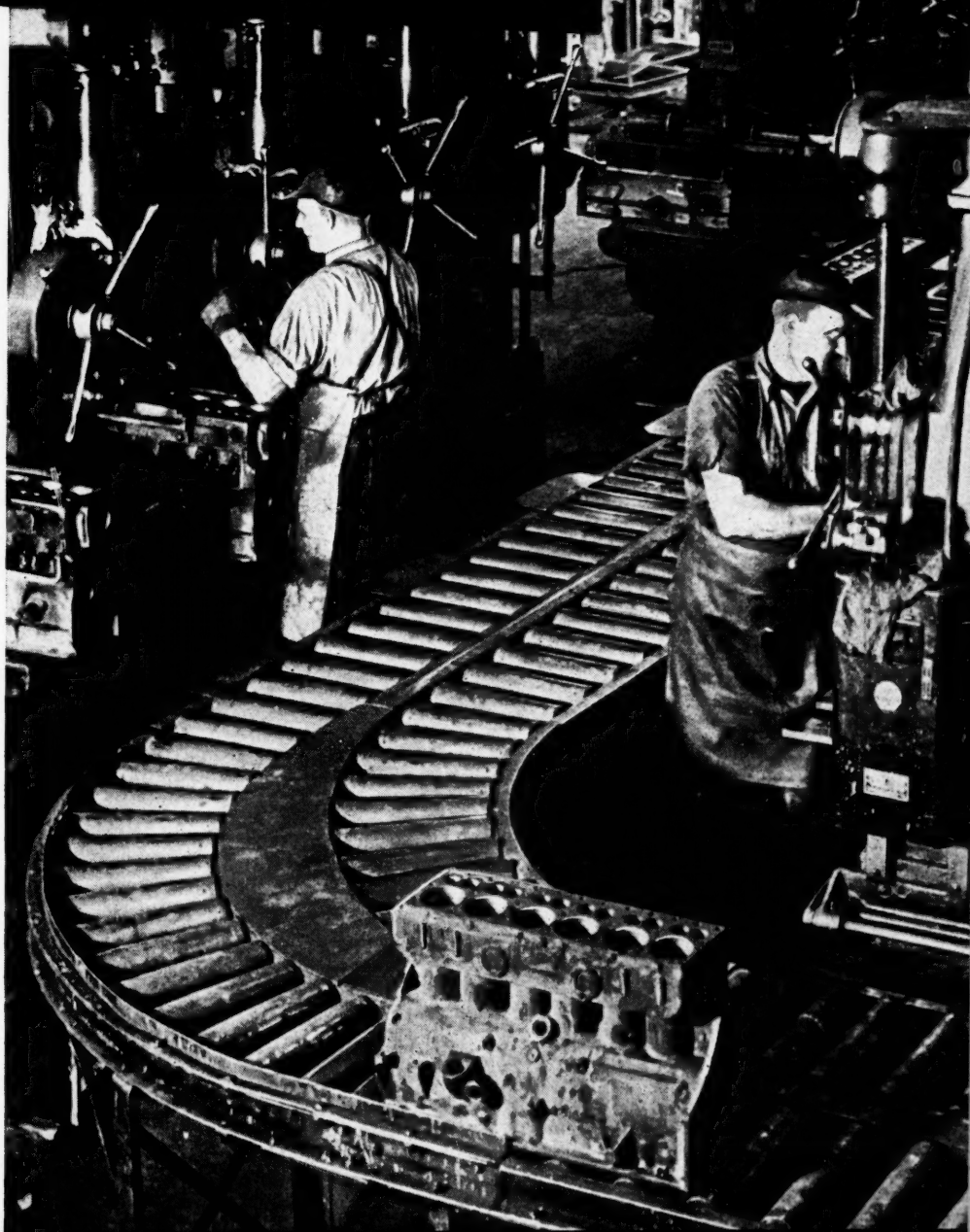
Industry is still fighting the depression ... using new plans, new methods, new equipment to produce "more for the money" ... its time-honored method of stirring purchasing power into action to regain prosperity.

With thrift the watchword, the Socony-Vacuum principle of "Lubrication Profit" has been recognized more than ever as a basic principle of low-cost production.

The phrase "Lubrication Profit" aptly describes it ... industrial lubrication that not only permits wheels to turn, but yields substantial savings in power costs, in uninterrupted production, in fewer repairs and lowered cost of lubrication itself.

Such savings are being made today in thousands of industrial plants. As a result, Socony-Vacuum engineers have never been busier. Large plants and small are calling for their cooperation.

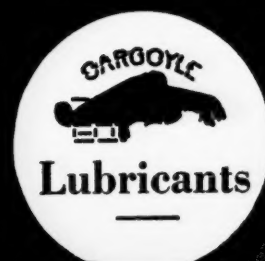
Out of many years' experience these engineers have available the knowledge and the complete line of lubricants which make Lubrication Profit practicable.

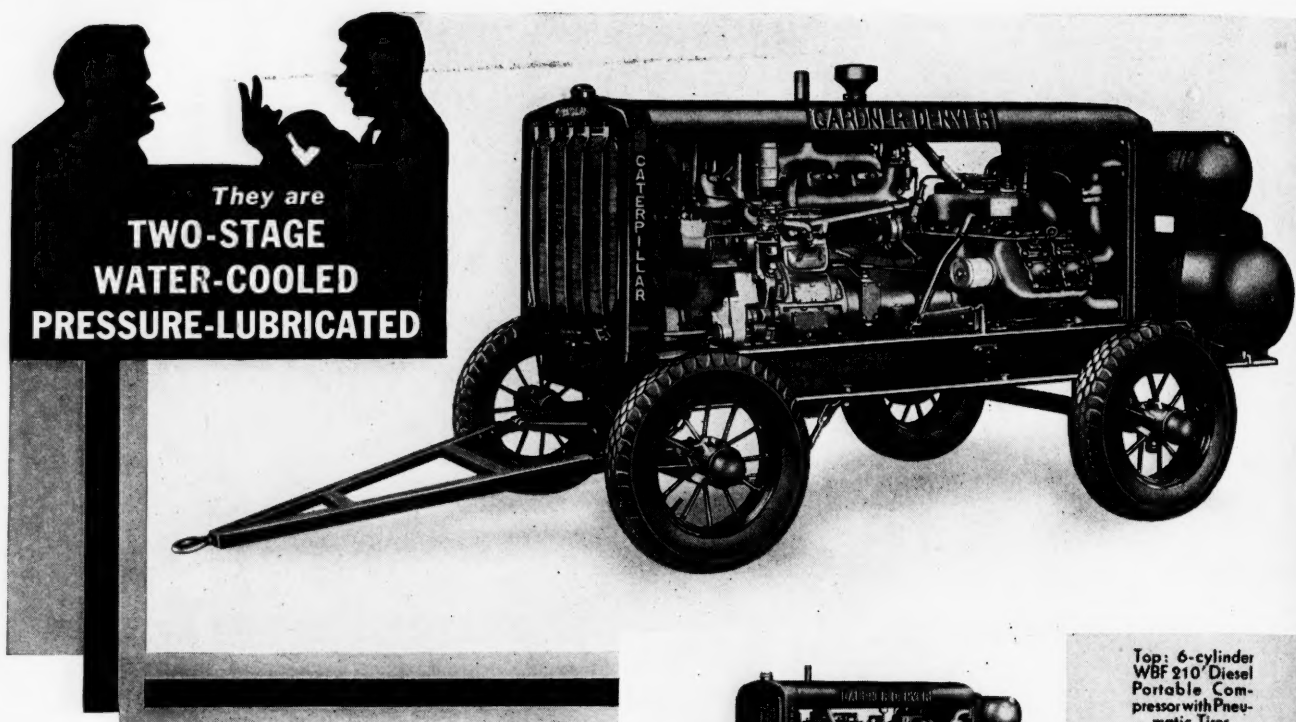


SOCONY-VACUUM OIL Co.

INCORPORATED

STANDARD OIL COMPANY OF NEW YORK • VACUUM OIL COMPANY • WADHAMS OIL COMPANY
ESTAR REFINING COMPANY • LUBRITE REFINING CORPORATION • WHITE EAGLE OIL CORPORATION
MOLIA PETROLEUM COMPANY • GENERAL PETROLEUM CORPORATION OF CALIFORNIA





This new and COMPLETE LINE of Gardner-Denver Portable Air Compressors

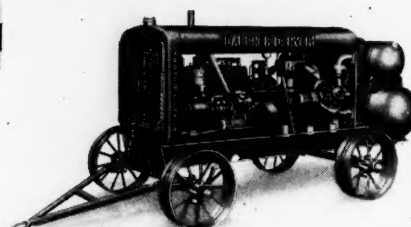
**Has Roller Main Bearings—
Cushioned Valves—Self-Adjusting
Clutch—Perfect Balance**

Whether working near the Canadian border at 30° below, or on the desert at 130° above, the completely water-jacketed cylinders and valves are independent of atmospheric temperature.

Designed and built with a complete understanding of the requirements of the construction industry, Gardner-Denver Two-Stage Portable Air Compressors are available in the sizes listed below:

Buda Gasoline Engine Driven—105, 160, 210 and 315 cu. ft.
"Caterpillar" Diesel Driven—160, 210 and 315 cu. ft.

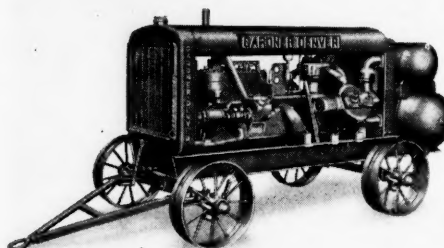
GARDNER-DENVER COMPANY
102 Williamson Street Quincy, Illinois
Southern Offices: Atlanta, Ga.; Birmingham, Ala.; Charleston, W. Va.;
Knoxville, Tenn.



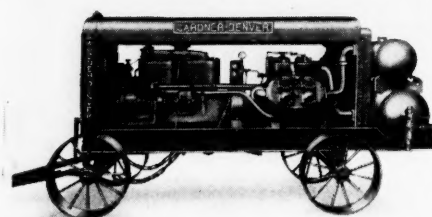
Top: 6-cylinder WBF 210' Diesel Portable Compressor with Pneumatic Tires.



3-cylinder WBD 105' Gasoline Portable Compressor.



3-cylinder WBE 160' Gasoline Portable Compressor.



6-cylinder WBG 315' Gasoline Portable Compressor.

Horizontal, Vertical, Air-Cooled and Portable Compressors • Steam and Power Pumps • Rock Drills, Accessories • Paving Breakers • Clay Diggers • Hoists

GARDNER-DENVER

MAKES AIR DO MORE AND COST LESS

SOUTHERN PHOSPHATE KEEPS COSTS DOWN WITH GULF LUBRICANTS



These hydraulic guns and huge electric drag line are removing the overburden from the phosphate bearing strata at the Southern Phosphate mine in Florida. Gulf lubricants keep all mechanical equipment operating efficiently.

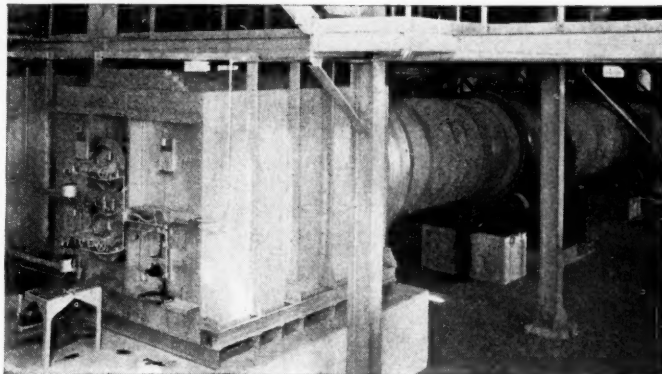
The Management says:

"We Use Gulf Lubricants for Ultimate Economy"

To protect their large investment in mining and processing equipment the Southern Phosphate Corporation has standardized on Gulf quality lubricants and engineering service.

In all branches of the rock products industry, leading plants are using Gulf lubricants to *reduce operating costs*.

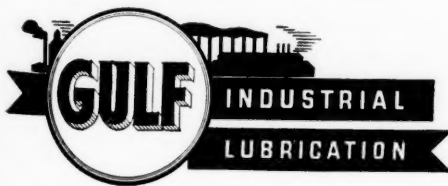
Gulf will give you a definite lubrication plan designed to effect savings in maintenance, power and lubricants costs. Discuss this matter in detail with the Gulf engineer the next time he calls at your plant.



The drying plant, where two rotary drying kilns with a capacity of 2,500 tons per day prepare the phosphate for shipment. Gulf lubricants protect this heavy equipment from excessive wear and maintenance expense.

GULF REFINING COMPANY, PITTSBURGH, PA.

District Sales Offices:
 Boston New York Philadelphia Atlanta New Orleans
 Houston Pittsburgh Louisville Toledo



Gulf's technical staff will be pleased to give you advice or information regarding the lubrication of any and all of your equipment. Fill in and send the coupon. You will not be obligated.

GULF REFINING COMPANY M. R. 3
 3800 Gulf Building, Pittsburgh, Pa.

I would like to have information regarding lubricants for.....

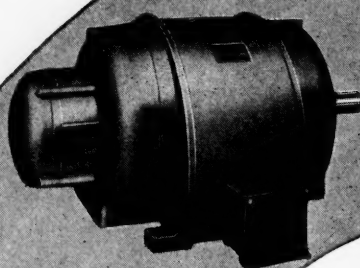
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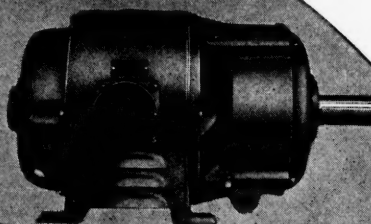
Company.....

Address.....

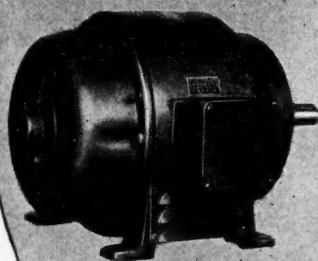
WHICH MOTOR for Jobs Where There are SPLASHING LIQUIDS?



Wound-rotor induction motors for cranes, hoists, and other high-starting-torque jobs; also for speed control on fans



Gear-motors—compact, efficient low-speed drives for your conveyors, low-speed pumps, machine tools, etc.

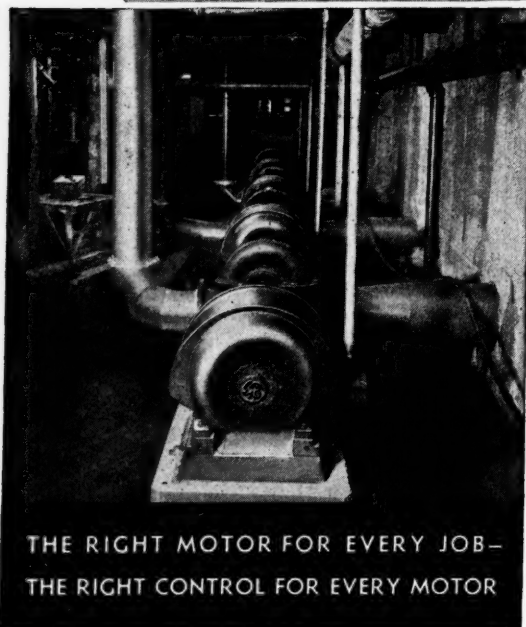


Squirrel-cage induction motors*—simple, sturdy motors for your run-of-the-plant jobs
*Typical of Frames 326 and smaller



Direct-current motors—use them where you want unusually fine speed control, or where your power is d-c.

The G-E Splashproof Motor



THE RIGHT MOTOR FOR EVERY JOB—
THE RIGHT CONTROL FOR EVERY MOTOR

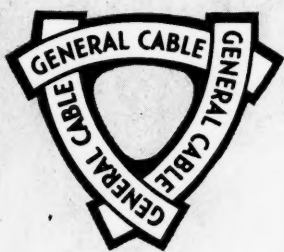
If your machinery must be washed down, or if it operates where there are splashing or dripping liquids or falling particles, you can save money and get longer motor life and more dependable service if you use G-E splashproof motors and control for your jobs. Squirrel-cage induction, wound-rotor induction, synchronous, direct-current—whatever type of motor your job requires, we can supply you with the RIGHT motor, protected against splashing liquids or falling particles.

Have you a job for a splashproof motor in your plant? If so, why not see a sales engineer in the nearest G-E office? He's well grounded in motor application, and back of him is General Electric's more than 40 years' experience in the design, manufacture, and application of motors for industry. All this experience is available to help you get the most profitable solution of your drive problems. General Electric, Schenectady, N. Y.

020-105

GENERAL ELECTRIC

MANUFACTURERS RECORD FOR



A Check List for Improved Planning of Your Plant Circuits:

- ☐ POWER CABLES—Rubber, Varnished Cambric, Paper Insulated.
- ☐ ASBESTOS INSULATED TYPES WIRES & CABLES
- ☐ CONTROL CABLES
- ☐ PEERLESS WEATHER-PROOF WIRES & CABLES
- ☐ TRENCHLAY CABLES—For Direct Earth Installation
- ☐ SAFECOTE BUILDING WIRES & CABLES—Code, Intermediate, 30%
- ☐ "SUPER SERVICE" CORDS & CABLES—For Portable Tool and Equipment Leads
- ☐ ELECTRIC WELDING CABLE
- ☐ MAGNET WIRE—Enamelled, Silk, Cotton or Asbestos Covered
- ☐ ROMEX NON-METALLIC SHEATHED CABLE
- ☐ SERVICE ENTRANCE CABLES
- ☐ ACCESSORIES

The moral is:

CONSULT GENERAL CABLE and let our specialized knowledge help work out your problems



"We've just got to get something better than this wiring."

...Then they "put it up to General Cable"

Too many industrial executives and engineers have taken rubber insulation for granted. They may not have realized the availability of wires and cables with **SPECIAL SERVICE INSULATIONS** that would stand up where ordinary rubber is deteriorated rapidly by conditions present. We offer for instance:

- **"THIOKOL"** Sheathed Wires, Cables and Cords for use where oil, gasoline, acids, or fumes rapidly deteriorate rubber.
- **GENRITE** Insulation on Wires and Cables where continuous heavy load or other operating factors indicate the need for a "custom" type 30% dry mineral rubber compound.
- **THERMAX**, a heat resisting rubber compound for temperatures beyond the range of usual rubber insulations, and especially where condensation or moisture precludes the use of asbestos type insulations.
- **SUPER SERVICE** Cords & Cables with pressure vulcanized rubber "hide", tough, kinkproof and moisture resistant far beyond ordinary construction.

GENERAL CABLE CORPORATION

Executive Offices: 420 LEXINGTON AVE., NEW YORK

Sales Offices: ATLANTA • BOSTON • BUFFALO • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEW YORK • PHILADELPHIA • PITTSBURGH • ROME • SAN FRANCISCO • ST. LOUIS • SEATTLE • WASHINGTON, D.C.

MARCH NINETEEN THIRTY-FIVE

THE SOUTH NEEDS INDUSTRY

Visualize a sparsely settled coastal area with a back country of unprofitable farms, the cash income for which was derived almost entirely from the sale of sea food. Note the contrast after the location in that section of a large and successful **INDUSTRY**—a prosperous rural and urban community.

This is the story of the Virginia Peninsula before and after the establishment by Collis Potter Huntington of the Shipyard at Newport News. During its growth, it developed a city of home owners, and elevated the standard of living of an entire section.

INDUSTRY BENEFITS THE COMMUNITY

NEWPORT NEWS SHIPBUILDING AND DRY DOCK COMPANY

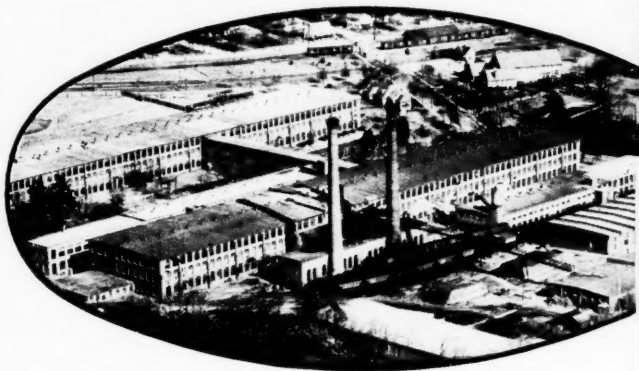
NEWPORT NEWS, VIRGINIA

THE PEPPERELL MANUFACTURING COMPANY

SAVED

\$75,547.58

in thirteen years on Workmen's
Compensation Insurance placed
with the American Mutual



Above—The Pepperell plant at Lindale, Ga.
At Left—The Pepperell plant at Opelika, Ala.

← The famous Pepperell trade-mark

In a period when economy is a particularly important factor in the choice of an insurance company, an average saving of nearly six thousand dollars annually on a single item of overhead is worthy of serious thought even in a large industrial organization, such as The Pepperell Manufacturing Company (makers of the famous Lady Pepperell and Pepperell Peeress Sheets). They found their savings on workmen's compensation insurance so worth-while that they have maintained their association with the American Mutual year after year for more than a decade.

Not once in all that time—in fact, not since our organization in 1887—have American Mutual savings returned to policyholders in the form of dividends been less than 20%.

Why have the net costs to the policyholder thus been so very much lower? One of the big reasons is

that the American Mutual, through a highly trained engineering department, is constantly aiding its policyholders in reducing accident causes and insurance rates. Other reasons are the careful selection of risks and truly economical management. Finally, the American, being a *mutual* company, shares its savings or profits with its policyholders—instead of operating mainly for the benefit of stockholders.

So satisfactory has American Mutual service been that 90% of our policyholders renew their insurance with us every year. There must be something unusual about a service that can boast such a record. Why not investigate? Get the American Mutual's figures. Learn how our fifty-two branch offices—manned and supported by an adequate corps of claim managers, adjusters, medical and engineering advisers—are solving workmen's compensation insurance problems. Ask our nearest office to give you the FACTS. No obligation.



AMERICAN MUTUAL LIABILITY INSURANCE COMPANY

Workmen's Compensation and Automobile Insurance

STRONGEST AND OLDEST MUTUAL LIABILITY INSURANCE COMPANY IN THE WORLD
(As filed with the New York Insurance Department as of December 31, 1933)

Assets: \$17,292,237.06

Surplus to Policyholders: \$3,705,931.58

Liabilities: \$13,586,305.48

Offices in the following and other principal cities:

ATLANTA, Ga.—Norris Bldg.

CHARLOTTE, N. C.—First National Bank Bldg.

LOUISVILLE, Ky.—Breslin Bldg.

BALTIMORE, Md.—Chamber of Commerce Bldg.

GREENSBORO, N. C.—Guilford Bldg.

MEMPHIS, Tenn.—Union Planters Nat'l. Bank Bldg.

RICHMOND, Va.—Mutual Bldg.

NEW ORLEANS, La.—Masonic Temple.

Executive Offices: BOSTON, Mass.—142 Berkeley St.

BIRMINGHAM, Ala.—Empire Bldg.

GREENVILLE, S. C.—Woodside Bldg.

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MARCH NINETEEN THIRTY-FIVE

J&L STEEL SERVICE

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THE extensive system of warehouses, shops and offices maintained by Jones & Laughlin to serve Southern Industry makes this great company a logical source of supply for your steel requirements.

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Complete steel stocks are carried at New Orleans, Cincinnati and Pittsburgh. Stocks of pipe, sheets, spikes and wire products, together with reinforcing bars and a bar fabricating yard, are situated at Memphis. At Louisville, J & L maintains a bar fabricating yard and a large stock of reinforcing

bars. Fabricating shops are operated at Pittsburgh, Cincinnati and New Orleans, the latter being one of the best equipped plants in the South. They have facilities to execute all types of fabricating jobs. Write for a copy of the J & L Warehouse Stock List.

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Mill service is readily available through offices situated in Atlanta, Cincinnati, Dallas, Memphis, New Orleans, Pittsburgh, Philadelphia and St. Louis. The district manager in your area will welcome the opportunity to discuss your steel requirements with you.

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Billets, Sheet Bars, Skelp . . . Hot Rolled Bars, Plates, Shapes, Strip and Sheets . . . Light Weight Channels . . . Railroad Spikes and Tie Plates . . . Bars for Concrete Reinforcement . . . Forging Steel . . . Jalcase Steel . . . Cold Finished Steel . . . Steel Piling . . . Junior Beams . . . Fabricated Structural Work . . . Seamless and Welded Tubular Products . . . Wire Rods and Wire Products . . . Tin Plate and Black Sheets . . . Coke By-Products . . . Pig Iron

• Manufacturers Record •

REFORM MUST WAIT UPON RECOVERY

SENATOR Harry Flood Byrd of Virginia, presents facts of vital importance in this issue that should be read and preserved by everyone concerned about the welfare of his country. It is no longer possible to overlook that whatever the intent, we are being hurried—stampeded might be a better word—into a maelstrom of schemes, one after the other, that are bewildering in their variety and staggering in the expense they involve. The country may be thankful for Senator Byrd, who stands forth definitely opposed to further huge additional debts. It is his considered opinion that the measure appropriating \$4,800,000,000, which has been held up temporarily, "will serve to retard national recovery instead of promoting it."*** I am convinced the time has come when temporary and emergency measures should yield to sound principles of government and business.***

"Our Federal appropriation bill, as proposed for one year, is nearly five percent of our total national wealth. It is one-fifth of the total gross income of the nation for 1933. It is double—twice—the total cash income for 1932 of all the farmers of the United States. It is nearly five times the total net incomes returned by all corporations for 1932. It is three times the total net taxable incomes of individuals for 1932. A tax of one per cent on products of manufacture would yield the government only \$250,000,000. We are spending this year a sum equal to the yield of a sales tax on products of manufacture of 36 per cent."

Government propagandists keep asking why does not confidence return? Why does not capital invest freely and durable goods industries improve their plants and engage upon long term commitments? Senator Byrd answers the question.

"Business men must have faith in the future before they will venture; they cannot have faith unless they have good reason to believe that taxes will not absorb their reasonable profits; they cannot feel secure unless they believe that the currency will be sound and fairly stable; they will not invest freely new money unless they have confidence that the govern-

ment will protect them in their right to the property they own and their privilege to use that property in gainful pursuits.

"Under our profit and loss system recovery depends on the will to work, and upon the investments of those who have capital. Such men and women must not be confronted with the constant fear of unreasonable and excessive increase of taxes. But they know that such increase is inevitable if organized minorities combine to become organized majorities with the political power to raid the Treasury. This is the grave danger that threatens our democracy in the proposal in other pending legislation to add to our present pensioners more than three million persons over sixty-five, to guarantee by this bill a Federal job to three and a half million more; to appropriate millions more for the relief of the indigent and dependent children; and to establish an increasing army of government employees to administer the bureaus that will distribute the money.

"It is not fanciful to predict a day when those now being placed on the public rolls to receive cash benefits from the Treasury may consolidate with existing pensioners and employees and form a body of political influence that will control the Congress in more and more liberal appropriations to the members of such groups."

The Federal deficit for the fiscal year 1936, it is estimated, will reach the stupendous total of \$4,529,000,000. This is the Federal deficit alone. The total public debt of the country—Federal, state and local—is in excess of \$50,000,000,000, having increased 30 percent in the past three years. This means an average of \$1600 for each family in the United States.

Proposals before Congress and various State Legislatures promise to increase this unbearable load still further. Taxes last year in all divisions of government were in excess of \$9,000,000,000, or a load of \$300 average in that year for each family in America. Whether these families are property owners or renters, they are tax payers. It is estimated that every person receiving an annual income of \$2080 pays \$480 a year in taxes.

If present plans are carried out, by 1936 the Federal debt will have increased by more than 56 per cent over 1932. The largest item in the family's budget is taxes. Taxes cost more than food. The nation's food

cost is approximately \$7,600,000,000 a year; clothing \$3,600,000,000; rent about the same amount. Startling when it is considered that the national tax bill is more than 25 per cent above the amount spent for food and two and a half times the amount spent for clothing or for rent.

It must be evident to every thinking person, willing to consider the plain facts, that no sound recovery can be hoped for until governmental costs are materially cut. There are more than 182,000 tax levying and tax spending bodies in the United States. Think of it! A large part of the money they collect is for maintenance and support of a huge army of job-holders. These office holders have been oftentimes appointed, in fact their very offices created, to pay political debts, regardless of the fact that in maintaining them at the expense of an already overburdened people, we have over-lapping and duplicate government agencies in practically every branch of government administration.

Clearly it is time to call a halt. Fanciful schemes for curing all the ills of mankind should give way to practical common sense, which in these days of the brain trust has been the most uncommon of all sense. Reform must wait upon recovery.

AMERICA'S 10 TO 1 WAGE SCALE

A comparison of wages in Japan with even minimum rates established by industrial codes under the NRA shows the impossibility of American producers competing with low Oriental costs. It also shows the clear necessity of protecting our own people from cheap foreign imports if we are to maintain the wage scales required to support the standard of living developed in this country.

Japanese wages for a day's work of 10 hours, as reported by the Tokio Chamber of Commerce, are:

Type of Employment	Wage Per Day (10 hrs.)
Textile (average)	\$0.23½
Glass .....	.75
Match .....	.23
Paper .....	.40
Metal	1.45
Tailors .....	.60
Shoe .....	.65
Carpenters .....	.65
Plasterers .....	.73
Bricklayers .....	.80
Painters .....	.70
Bookbinders .....	.69
Printers .....	.89
Domestics .....	.24

In America, employees are paid more for an hour's work than a Japanese receives in a 10-hour day.

Were it not for our protective tariff, foreign goods produced at the above low wages would flood our markets and close our manufacturing plants. It is hard to understand the reasoning of those advocating the removal of this tariff protection when the whole trend of shorter hours and more pay add to our cost of production. Instead of lowering our tariff it is more imperative to maintain it and to raise it when necessary to avoid turning our markets over to foreign producers.

ILLEGAL GOVERNMENT COMPETITION

HOLDING the Tennessee Valley Authority did not have the legal right to sell power to municipalities and to rural lines within the State, Judge W. I. Grubb of the Federal District Court of Alabama has rendered a decision that strikes at the heart of the whole Federal power competition program. He based his decision on the fact that "the United States has no right within the lines of a State, to conduct any proprietary business" and he added, "I cannot see where the United States gets any power under the Constitution to engage in any business permanently."

This decision of the Federal District Court of Alabama was the result of the suit brought by preferred stockholders of the Alabama Power Company who sought to restrain the purchase by the TVA of the electric distribution facilities of the Alabama Power Company in 14 Alabama cities. Furthermore, Judge Grubb made permanent his temporary restraining order enjoining the 14 Alabama cities from accepting or expending PWA funds for the construction of competing power systems.

Advocates of State socialism and the expansion of government activities in direct competition with private enterprise have experienced an arresting defeat. Under the Constitution it was never intended that the Federal Government should become a manufacturer or a merchant competing with its citizens from whom it receives its support.

It is timely that the highest courts of the land should stop the increasing usurpation of the rights of individuals which has been undertaken with the pretense of emergency legislation.

The contention of the government that it is "surplus" power above the government's requirements for operation of the locks in the Tennessee River navigation improvement that it proposes to sell is set aside. Those who have followed the course of the legislation creating TVA and read the speeches of its advocates know the purpose is and has been to generate power for the purpose of disposing of it to electric light and power users over a wide territory. It was entered upon with full knowledge that it must compete with existing private power companies and jeopardize the investment of thousands of individuals, banks and insurance companies who in good faith put their money into these enterprises.

Judge Grubb said:

"I don't believe you could take the small amount needed to operate the locks and the large amount generated and call the difference a surplus. The evidence shows that the TVA intended to produce the power and sell it, and bought the facilities of the Alabama Power Company to do it with." Thus the Federal Government entered into business in Alabama which is declared beyond its power.

If the Supreme Court of the United States sustains the Federal District Court's decision there will be

given for American private enterprise a renewed character of rights against encroaching government competition. It will remove uncertainty and restore confidence to investors and management who will proceed with private development that will increase employment and put durable goods industries to work.

THE RAILROAD OUTLOOK

COMPLETE restoration of railroad employees' wages by April 1, it is estimated, will increase operating expenses by \$156,000,000 a year and if the Railroad Retirement Act becomes effective, another \$60,000,000 will be added. As higher prices under NRA for materials and supplies purchased by the railroads increased their operating costs by about \$137,000,000, the total jump in railroad expense will be approximately \$353,000,000. To partly offset increased operating costs, the railroads are seeking the approval of the Interstate Commerce Commission to raise freight rates which they hope will bring in \$170,000,000 additional revenue.

To what extent the increase in railroad freight rates will cause shippers to turn to competing transportation service, is a question not easily answered. Shippers contend that higher freight rates will restrict their activity and further hamper business recovery.

The railroads of the country now handle only about 53 per cent of the nation's freight traffic, Great Lakes shipping accounts for 3 per cent, petroleum pipe lines 6 per cent, intercity trucks over 20 per cent, inland waterways 12 per cent and electric railways and air lines about 1 per cent.

The railroad problem is not easy to solve. If the Government takes them over, as Government ownership advocates urge, it would not remove the increased operating costs which the Government has already sanctioned, nor, viewed in the light of past experience, can it be doubted the cost of railroad service would be increased still further and efficiency decreased.

The problem is not to be settled in that way. Through consolidations and widespread economies that could be adopted private management is fully capable of putting the railroads in a more advantageous position than they have yet been, both as to character of service to be rendered and effectively meeting present day competition.

The essential part railroads must take in the commerce of the country is recognized by everyone and it is the belief of thoughtful students of railroad affairs, that a better day is dawning for the carriers. It would not be surprising if basic changes in rolling stock and power, to which so much attention has been given in recent years, and with such marked developments through electricity and diesel powered streamlined trains, the whole picture of railroad transportation did not change for the better very shortly.

The improvements in coal combustion also promise a marked lessening in cost through the elimination of waste in the operation of the steam locomotive. There

is no doubt of the fact that modern trains, at high speed, with more comforts than travelers ever enjoyed, but which can be operated at lowered cost for transportation, present a far different form of competition for passenger traffic than has been known for some years past. From all of which it may be gathered it is not a time to consider any more experiments in government operation, but to offer all reasonable aid so that the railroads shall be permitted to work out, through experienced private hands, the place they have a right to expect in American progress.

SOUTHERN BUSINESS

GENERAL business improvement in the South in 1934 continued during the first two months of 1935. Wholesale trade gained about 23 per cent over last year, construction increased 34 per cent and there was a 30 per cent greater volume of manufacturing. As a result of the increased purchasing power of Southern farmers, the closing months of 1934 saw a quickening of retail trade that reached the highest volume since 1930 in many sections of the South. Contrary to seasonal trend, this activity was maintained and increased in January. Construction gains were especially encouraging. Electric power production in the South has shown an increase of more than 7 per cent each week over the corresponding weeks of 1934.

From month to month the MANUFACTURERS RECORD reports the extent and progress of Southern development and interprets the trends in Southern industry. Each year it publishes an annual review of Southern business in its *Blue Book of Southern Progress*. The 1935 edition is now being prepared and will be available in a few weeks.

Based on the preliminary production figures available, the South will be able to show a marked gain in practically all lines of activity over the previous year. This year, as in the past, there will be given the latest facts on the principal industries of the South. The statistics by States, covering manufacturing, mining, agriculture, transportation, construction, etc., will be the latest available and as heretofore will offer a ready reference as to the extent and diversification, both geographically and by type of industries, of Southern productivity and markets.

Investment in new construction in the South last year was the largest in three years, and industrial building operations were a prominent factor in the total.

New plants, new processes, and new products are adding to the South's industrial capacity and this in turn is increasing its demand for materials and equipment of all kinds.

We all remember what happened in 1920 when it got to be quite the fashion for advertisers to cancel their plans and orders for space. The thread of continuity was broken on many a good campaign, and there are numerous business firms that have not yet recovered from their misapplied ideas as to economy. Their lack of merchandising vision and their tendency to run for cover instead of fighting all the harder when danger threatened piled up difficulties which have not yet been overcome.—*Printers' Ink*.

REVISE NRA CODES

CONTINUANCE of NRA for two more years, with certain amendments without changing the purpose of the Act, is not generally approved by manufacturers. While some believe it to be "just another noble experiment headed for the discard" a majority at least of the larger concerns appear to favor its continuance. Southern industries have been confronted with higher costs because of proportionately higher wages and the narrowing of the wage differentials between the South and other sections of the country. This has given other sections a competitive advantage.

The labor Section 7-A has caused the greatest disturbance and uncertainty, and most of the objections to the codes have centered around this section. Producers also in recent months have faced competition from "chiselers" who are not adhering to code regulations.

Stability of selling prices has been of definite benefit to many industries. The provisions covering unfair trade practices, minimum wages and maximum hours, and child labor have been generally approved. But there is decided objection to the arbitrary limitations on hours and wages which have been set. Southern manufacturers have objected to the lowering of the wage differential below what has always been considered fair and equitable, in view of the difference between living costs in the warmer climate of the South and the colder regions of the rest of the country.

Based on a survey of Southern labor costs in comparison with those of 18 months ago, the Southern States Industrial Council reports "conclusive evidence that average hourly wage rates have been increased to a far greater extent in the South than in the North. From July 1933, which was pre-code, to August 1934, the following percentage increases occurred in the cotton textile industry: North, male, 48.8 per cent, female, 61.3 per cent; South male, 70 per cent, female, 100 per cent.

"Due to this disturbance of competitive conditions between the South and other sections, there has been a gradual decrease in activity in certain of the larger Southern industries during the 18 months of code operation. This is the direct result of tremendously increased labor costs without corresponding increases in the same costs of competing area.

"This shift in the textile industry was not immediately noticeable, since there was a great rush to buy after the textile code was put into effect, and the

mills throughout the country were able to dispose of stocks on hand. During the intervening year, it has, of course, been necessary to replace these stocks under the increased costs imposed by the code. As a consequence, we find a shift of business to northern mills due to a disproportionate increase in the production costs of the two sections.

"Another outstanding example, is that from October 1933 to December 1934, there was a net production shift of 2.5 per cent from the South to the North in the coal industry.

"Practically 10,000,000 tons of coal were shifted from the Southern to the Northern fields. If we assume 5 tons a day per man, the 10,000,000 tons lost by the South would have given full time employment to 6,666 miners for a year of 300 working days.

"This is only part of the whole loss. That 10,000,000 tons of coal would have provided employment for the railroad men necessary to operate 3,333 freight trains hauling 3,000 tons, or about ten trains a day for a solid year.

"We feel that the proper treatment of this vital question is absolutely essential to the very life of Southern industry. While the National Recovery Administration has recognized, in one of its policy positions, the fact of the relationship of wage differentials to our industrial welfare, the subject is far more important than appears to have been realized in administrative circles.

"Ours is a competitive society," says John E. Edgerton, president of the Council, "and the vast majority of American people want it to remain so. There is competition not only between industrial units but between industries, between sections, between sizes of units, and between philosophies of management. One section, relatively small in area is very much older and more highly developed in its industrial life than other sections. Naturally, it is this relatively strong section which has written and will continue to write all of the codes of these industries which operate in all sections. It has not only written the codes, but it controls and will continue to control under the present system the interpretation and administration of the codes. That area, therefore, will very naturally fix its own conditions of competition with competing areas and units.

"Of the 49,000,000 persons who are normally gainfully employed, 3,000,000 of them constitute what is known as organized labor. Those 3,000,000 are for the most part in the metropolitan areas and

are principally of foreign birth or extraction. Some of the industries in those areas are completely dominated by generally radical and unassimilated elements. Those areas and elements are constantly attempting to force upon competing areas their philosophy and conditions of life. They are strongly organized. In the South and Southwest, employers and employees are of one blood, of one flag, of one language. The labor in these sections is free and largely satisfied. This labor and these people will resist to the utmost the strange philosophy which so-called organized labor is attempting to force upon them.

"The present system is designed for the strong, the efficient, and the more competent. The vast numbers who constitute the sub-normal stratum, as the negroes, the partially disabled, the ignorant, the aged, and other unfortunate elements are being driven out of industry by the operation of NRA, and are becoming charges upon community and national charities. In other words, NRA was made chiefly by and for competitive majorities among employers and a strongly organized small minority of employees.

"I cannot see how it will be possible to accomplish the ideal of industrial self-government except through some zoning plan by which the industries in areas that are governed by like conditions can write their own tickets in conformity with some very broad national standard. Otherwise, it seems the tendency will continue to eliminate free and open competition as the force which has built our national industrial structure, and to concentrate power in the hands of the very few large units.

"One of the great evils of the present system is the imposition of tremendous unnecessary costs upon all industry. Not only do trade associations have to be maintained with larger and more highly paid staffs, but code authorities and much other machinery for administration have demonstrated themselves to be extremely expensive. Manufacturers are continuously having to make trips to Washington to defend themselves against unjust interpretations and applications of rules. They are frequently summoned to attend hearings on amendments to codes which are suddenly promulgated. Frequently, these hearings result in executive orders that disturb and sometimes stop parts of the industry affected.

"Maximum hours should be scientifically and not politically determined; wages should be based upon living costs within areas governed by similar conditions of life; prohibition of child labor should be clearly defined; and, unfair trade practices should be defined by the industries that are grouped together under a zoning system, such as that which has been suggested."

RETURN TO SOUND PRINCIPLES

By

Harry Flood Byrd

Senator of the United States from Virginia

I AM against the proposal of the Government to appropriate \$4,800,000,000 for public works for the purpose of relieving unemployment. It is unsound government, it is unsound business, and I am convinced it will serve to retard national recovery instead of promoting it.

I do not believe a government can borrow and spend its way to prosperity any more than an individual can enrich himself by living beyond his income.

When President Roosevelt courageously and wisely closed the banks and permitted only sound banks to reopen, he started us on the road to recovery. Since his inauguration slow but definite improvement has been under way. In the fight against the depression Congress has passed numerous emergency measures, many of which the President frankly stated were of experimental nature. I supported in the Senate most of these measures as emergency measures.

I am convinced, however, that the time has come when temporary and emergency measures should yield to sound principles of government and business. Instead of piling huge additional debts, it is time to reduce the public spending, seek to balance the national budget, revive foreign trade, and thus give confidence to private enterprise to go forward. Business can only go forward when the threat of mounting debt and oppressive taxation is removed.

Alarming Growth of Public Debt

In 1929 our national debt was \$21,000,000,000. When President Roosevelt took office he expressed his apprehension that the continued deficit added to our debt was alarming, and stated that only a rigid economy could stop us on the road to national bankruptcy.

If Congress should appropriate the nearly five billion dollars now proposed for public works our Federal debt would exceed \$34,000,000,000. It would mean that in less than six years we should be spending \$18,000,000,000 more than our Federal income.

Our Federal appropriation bill, as pro-

posed for one year, is nearly five per cent of our total national wealth. It is one-fifth of the total gross income of the nation for 1933. It is double—twice—the total cash income for 1932 of all the farmers of the United States. It is nearly five times the total net incomes returned by all corporations for 1932. It is three times the total net taxable incomes of individuals for 1932. A tax of one per cent on products of manufacture would yield the government only \$250,000,000. We are spending this year a sum equal to the yield of a sales tax on products of manufacture of 36 per cent.

These comparisons do not include the constantly mounting local and State burden. Since 1932 government debt, Federal, State, and local, has increased from \$39,000,000,000 to approximately \$50,000,000,000, or more than 30 per cent. And it is now proposed to add \$5,000,000,000 to this debt. The government debts are an obligation on all the people. Government revenues come from the people. When the government spends money it spends the people's money. Not so many years ago the country was alarmed when the Federal budget reached \$1,000,000,000. If we now increase the debt, as proposed, the interest alone that we shall have to pay annually will exceed \$1,000,000,000. This money must come from the taxpayers. The average family of today is carrying a public debt load of \$1,600, and is paying \$300 a year in taxes. We may not realize that we are paying these taxes because many of them are not direct, but everyone is paying them in rents and in every item of living expense.

Basic Factors of Recovery

I think in the present stage of our fight against the depression recovery can come only by: first, the assurance of a gradual reduction in governmental expenditures, so that within a reasonable time we shall have a balanced budget; second, conduct of government within an income that will not require excessive increases in Federal taxes; third, constructive efforts to regain our still diminishing foreign markets; fourth, assurance that individuals may develop a business without the fear of competition in that business by the Federal government, or undue interference with the reasonable control of his business so long as he acts with a decent regard for the rights of others.

Business men must have faith in the future before they will venture; they cannot have faith unless they have good reason to believe that taxes will not ab-



Harry Flood Byrd

sorb their reasonable profits; they cannot feel secure unless they believe that the currency will be sound and fairly stable; they will not invest freely new money unless they have confidence that the government will protect them in their right to the property they own and their privilege to use that property in gainful pursuits.

Under our profit and loss system recovery depends on the will to work, and upon the investments of those who have capital. Such men and women must not be confronted with the constant fear of unreasonable and excessive increase of taxes. But they know that such increase is inevitable if organized minorities combine to become organized majorities with the political power to raid the Treasury. This is the grave danger that threatens our democracy in the proposal in other pending legislation to add to our present pensioners more than 3,000,000 persons over 65, to guarantee by this bill a Federal job to 3,500,000 more; to appropriate millions more for the relief of the indigent and dependent children; and to establish an increasing army of government employees to administer the bureaus that will distribute the government money.

It is not fanciful to predict a day when those now being placed on the public rolls to receive cash benefits from the Treasury may consolidate with existing pensioners and employees and form a body of political influence that will control the Congress in more and more liberal appropriations to the members of such groups.

Should this day come the ultimate end will be the inability of the taxpayers to carry the load, and the impairment of the credit of a government unable to balance its budget or sell bonds at par.

(Continued on page 58)

UNITED ACTION NECESSARY

A Message to Manufacturers

By

C. L. Bardo

President,

National Association of Manufacturers

AMERICA must remain American. Her glory goes down to the very foundation of those things that have made the spirit of men free and happy and contented. As a people we are racially and traditionally individualistic. We want neither fascism, socialism and communism. The pride of heritage remains in the great mass of our people and the spirit of Valley Forge is not dead.

During our lifetime we have seen a great country grow into independence; advance and extend all along the lines of progress and prosperity, until the seven wonders of the world have been lost sight of and forgotten in the thousand greater wonders of our industrial age. We have seen education become the common provisions for every child of the Republic. We have seen the average comfort and prosperity higher among all classes in this country than could be found at any other age of the world and in any other land upon the surface of the earth.

State Paternalism

And yet today there are discontents and there are dissatisfactions and there are evidences and signs of an overturning of our system of popular government and the substitution for it of plans whereby all the citizens can be made comfortable and rich without regard to fortune or ability or frugality or merit. Subtle advocates of socialism would set up in opposition to American ideals the system of State paternalism, and assert the doctrine that the government should not let a man alone to make the best use he can of his abilities and opportunities, but should guide and direct him

and provide for his every need. They would make the State the pap-giver, taking from the people the taxes that should be rightly limited to the legitimate needs of government and turning them into the pockets of the individual and the coffers of bureaucracies. They approve policies which destroy cattle and crops; they loan public moneys to set up instrumentalities that would compete with and destroy a business in which the public has invested its funds; they seek by subterfuge to usurp the rights of the States; they believe the Constitution can rightly be violated if the end justifies the means; they take away one man's business and customers and give them to his competitor and they make use of the boycott which has no sanction in law or in the Constitution.

Present Dangers

No matter to what extent we may have been in sympathy with the New Deal and all the hopes it engendered, the time has come to arouse men everywhere to present dangers. We must unite in our efforts to crush out all the vicious parasitic usurpers, all the extremists of the left wing who attempt to break down public faith in the present social order by artful and devious methods. You cannot allow theorists, educated along radical lines, to plan an economy for the commerce and industry of America unless you want your business to go to smash. Billions are being spent for plans and projects which will not bring the country results in any way commensurate with their enormous cost. The gigantic TVA is placing government in competition with private business on a scale heretofore undreamed of. It threatens the very existence of many business enterprises. It has been characterized by Norman Thomas as the purest example of socialism ever enacted in this country. If we are to have an industrial system that will support human life we must have a form of government which will stimulate it and not stifle it.

Amateur statesmen, who have never had to meet a payroll, would destroy the American principle of individual initiative and substitute for it a planned economy. This is the system of which an economist of Oxford University says:

"National economic planning, in any real sense, involves a strongly organized control over almost every aspect of the economic life and above all, over production, over the distribution of purchasing powers in all its forms

and over the fixing of prices. It is clearly impossible for any planning of this order to co-exist with capitalism."

NRA Restrictions

However much we may have agreed with the immediate object of the NRA we cannot help but feel that it represents an abrogation by Congress of its duty under the Constitution when it delegates to the President alone, or in conjunction with the code committee, the right to enact Federal Statutes. It must not be made permanent in its present form for its multiplying restrictions threaten the life of many a business.

And the NRA has proved conclusively that arbitrary increases of wages and shortening of the hours of labor cannot go on indefinitely. No manufacturer can possibly limit output, increase the cost of production and still make enough profit to pay high wages and allow short hours. The prices of the products would be prohibitive and no community would have sufficient purchasing power under such conditions to buy freely enough to create prosperity. Industrial recovery can only be made effective through reasonable cooperation between employers and employees with the government as arbitrator, through the effort to supply good work in return for good wages and through increased productivity as an offset to increased cost of production. The only sound policy is to keep the goose that lays the golden eggs alive by mutual toleration and cooperation, get as many eggs as possible by scientific and efficient methods and divide the output fairly.

Labor Relations

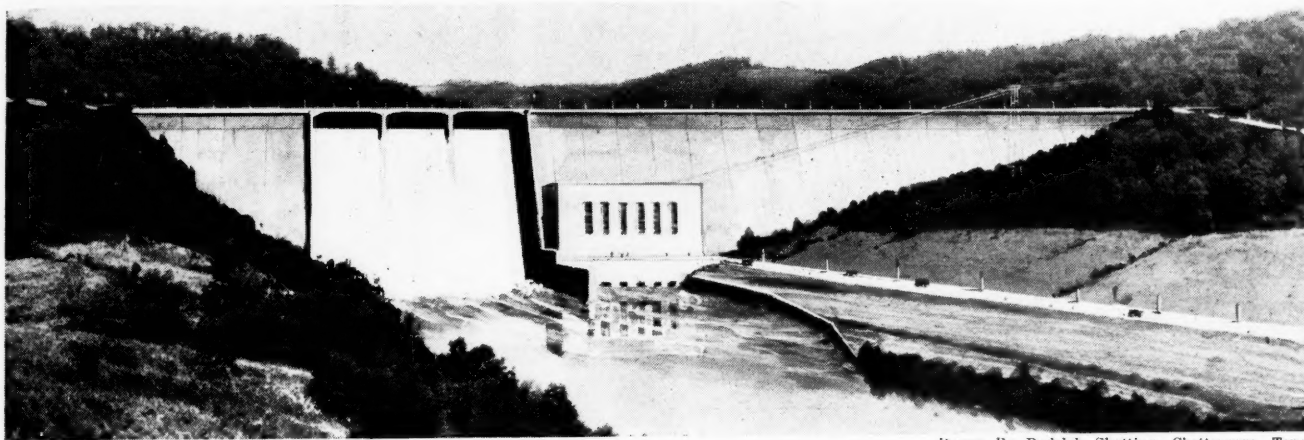
Industry cannot accept the majority rule in labor relations. One of the clearest statements of the meaning of section 7-a came from Cornelius W. Wickersham of the New York Bar when he stated:

"Section 7-a does not say that employees shall have the right to bargain collectively through the American Federation of Labor. It does not say that they shall bargain collectively through a labor organization. It does not say that they must bargain collectively through representatives chosen by some one else. It does say that they shall have the right to bargain collectively through representatives of their own choosing. It is difficult to see how it can be seriously contended that they must bargain, not through representatives of their own choosing, but through representatives chosen by some one else."

Social Security

Today industry contributes and will continue to contribute to unemployment relief. Furthermore, we will support sound measures to accomplish the purpose of guaranteeing greater security. But the proposed legislation covering social security involves a gigantic finan-

(Continued on page 64)



Drawn By Rudolph Shutting, Chattanooga, Tenn.

Perspective of Norris Dam as it will appear when completed

TENNESSEE VALLEY WORK CONTINUES

THE Tennessee Valley Authority is carrying forward work on Norris Dam on the Clinch River in Tennessee, on the Wheeler Dam on the Tennessee River about 15½ miles above Wilson Dam and on Pickwick Landing Dam on the Tennessee in Harding County, near Savannah, Tenn.

The first of six major TVA projects is Norris Dam, on which more than half the total of over 1,000,000 cu. yds. of concrete have been poured. Before high-water this Spring, work in the cofferdam in the River will be completed. The dam and power house, to include at first two 60,000 horsepower generating units, are scheduled to be finished the latter part of 1936.

The Chicago Bridge & Iron Works,

Chicago, Ill., recently completed two steel penstocks for Norris Dam, 20 feet in diameter and varying in thickness from 1½ inches to 1¾ inches in thickness. For the part of the work which was automatically welded the Electronic Tornado system of welding, utilizing a magnetically controlled carbon arc which, combined with the proper flux, gives weld metal of the quality required by A.S.M.E. Class 1 specifications, was used. After sections of the pipe had been fabricated, they were transported to the dam and joined together by manual shielded arc welding.

The penstocks were built of plates formed in semi-cylindrical sections at the Birmingham (Alabama) plant of the Chicago Bridge & Iron Works. At a field fabricating plant four plates were welded to gether to form a section 20 feet and 20 feet long, the heaviest sec-

tion weighing approximately 40 tons. All welded seams were X-rayed and all defects disclosed were repaired, and the welded joints were then "stress relieved" electrically. The 20-foot sections were hauled from the fabricating site on a heavy duty trailer, and swung into position on the dam by overhead cableways.

All welding was done with automatic equipment, electrodes and manual welding machines supplied by the Lincoln Electric Co., Cleveland, O. O. A. Bailey, chief engineer of the Chicago Bridge & Iron Works, directed building of the penstocks.

The East Pittsburgh plant of the Westinghouse Electric & Manufacturing Co. is building two 56,000 kv-a. generators with necessary auxiliaries to be installed at Norris Dam, the order involving over \$878,000.

Excavation having been completed in the first cofferdam at Wheeler Dam, a large amount of concrete has already been placed in the foundation for the dam and power house in that section. Draft tubes and sub-structures for eight generators are to be built into the structure, but only one 45,000 horsepower unit will be installed at first. Work in the second cofferdam is under way and the third cofferdam is under construction. A navigation lock, work on which was started in 1932, was recently completed and will facilitate movement of construction equipment and materials to the dam site.

The General Electric Company, Schenectady, N. Y., is building a 36,000 kv-a. generator to cost over \$424,000 for installation at Wheeler Dam.

To aid in developing the Basin the TVA is completing a detailed, accurate aerial map of the 40,600 square miles of the water shed. The scale employed is 1:24,000. It is believed to be the largest single mapping project of its kind undertaken. The Aero Service Corporation,

(Continued on page 60)

Welding steel plate into 20 ft. diameter by 20 ft. sections in construction of the penstocks for the Norris Dam TVA project

Courtesy Lincoln Electric Co.



COMPLETES ELECTRIFICATION PROJECT

WITH the opening of through electric passenger train service between New York, Philadelphia, Baltimore and Washington, the Pennsylvania Railroad brings nearly to completion the most extensive electrification project in transportation history. Completion of the tunnel-widening job at Baltimore and the transmission system through Maryland extended the service 108 miles southward from Wilmington, Del., to which point electric trains have been operating for some months. Operation of freight trains all the way from New York to Washington by electric power is planned to follow closely the inauguration of the electrification of passenger service.

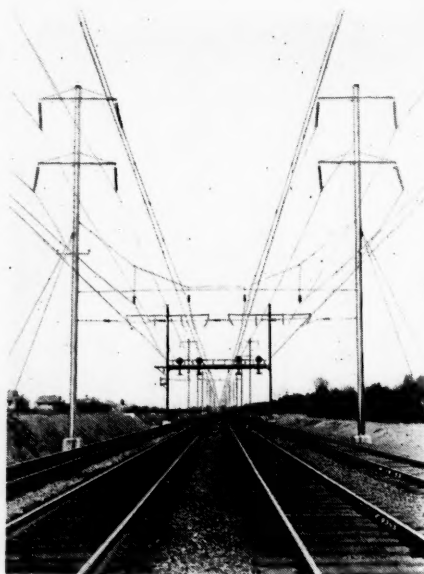
Its air-conditioned "Congressional" trains in both directions were the first to be electrified. They will temporarily retain the present schedule of four hours and fifteen minutes between New York and Washington. The schedule will be quickened step by step until it has been reduced to three and a half hours which has been currently set as the standard operating time for the fast through train service between the

Details of Tunnel Construction Work at Baltimore

Approximately \$5,000,000 was spent on the electrification of the main passenger and freight tracks through the city as part of the comprehensive improvement program.



two cities with the new high-speed streamlined electric locomotives. It is planned to extend electric operation to other passenger trains, both through and local, over the entire route of 225

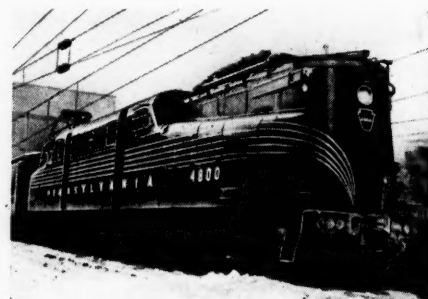


Overhead Wire System

Catenary construction above standard four-track roadbed

miles, gradually building up to complete electric service for all trains, effective about March 15.

The great electrification project was announced in the fall of 1928 with actual work commencing early in 1929 and continuing through to 1933. In the



New High-Speed Streamlined Electric Engine

Giant electric locomotives, designed for high-speed service between New York, Philadelphia, Baltimore and Washington, will make regular operating speed of 90 miles an hour. Fifty-seven of these are being built at a cost of about \$15,000,000.

latter part of 1933 the Pennsylvania Railroad secured approximately \$80,000,000 through the Public Works Administration by the sale to the government of secured obligations of the company, maturing in 10, 15, 20 and 30 years. In addition to covering completion of the construction and electrification work, including the building of 101 new electric locomotives, this sum provided for the construction of 7,000 new freight cars and the purchase of 100,000 tons of new steel rail. Approximately 25,000 men were given employment through these modernization expenditures. A total of 191 electric engines will be used in the various branches of freight, passenger and switching operations between New York and Washington. In addition, 431 cars and trailers of the "multi unit" type, in which the cars are equipped with their own motors and no locomotives is used, will be operated in local service.

For the high-speed through passenger service a new electric locomotive has been designed, the most powerful of its type ever produced and the first to be streamlined.

When the few remaining details are completed, the Pennsylvania will operate a total of 1974 miles of electrified track—458 miles on Long Island and 1516 miles in the territory from New York south. This constitutes more than one-third of the total electrified standard railroad trackage in the United States.

The Pennsylvania Railroad's completion of this great electrification project during a period in which business conditions throughout the country are still extremely difficult is evidence both of its profound confidence in the future of the country and of its firm conviction that transportation by rail will continue to contribute progressively to the country's development and growth.

LIFE INSURANCE SERVICE

SERVING America Through Life Insurance was the theme of the last annual meeting of the Association of Life Insurance Presidents. Service is a basic principle upon which the life insurance industry operates. As Thomas I. Parkinson, president of the Equitable Life Assurance Society of the United States, said in his opening address as chairman of the meeting: "The service record of life insurance during these years of severe depression speaks for itself."

\$2,700,000,000 Distributed

During 1934, the United States life insurance companies distributed the huge sum of \$2,700,000,000 to policy holders and beneficiaries. Of this total, \$1,800,000,000 went to living policy holders and \$900,000,000 to beneficiaries. It is noteworthy that living policy holders received double the amount distributed to beneficiaries. This emphasizes the changed aspect of life insurance. It is essentially a service to the living. People no longer regard life insurance as merely a way to protect dependents after the death of the insured. Modern life insurance practice makes it a definite investment. It is a means of protecting policy holders themselves in their old age. It is used to educate children, to build estates, to guard against business reverses and afford financial security in periods of sickness.

10 Per Cent Gain in 1934

The total amount of insurance in force in the United States is approximately \$98,000,000,000. During 1934, purchases of life insurance amounted to about \$14,000,000,000, or about 10 per cent more than was purchased in 1933 and the first depression year to show a gain in new business written over the previous year. A better record is being made in 1935 with January showing an increase of 24 per cent in the amount of new production over January, 1934.

\$3,845,000,000 Written in South

No detailed figures are available as to 1934 life insurance business of the Southern States, but in 1933 new life insurance written in the South amounted to \$3,845,000,000, and the total amount of life insurance in force at the end of 1933 was in excess of \$19,000,000,000. As

agricultural and general business conditions were greatly improved in the South in 1934, it is fair to assume that this section made a proportionate gain in its life insurance business last year. Virginia reported an increase of 13 per cent.

Investment of Funds

It has been pointed out that the principal service provided by life insurance is the investment of funds, collected from policy holders, in the country's business and industrial enterprises. These investments go into every section of the country and are made in a sense of trusteeship with the sole purpose to secure fair returns consistent with the principles of security and safety.

Final figures are not yet available, but on December 31, 1934, it is estimated that the legal reserve life insurance companies of the United States had invested, by classification, the following:

Investment	Amount	Per Cent
Farm mortgages...	\$1,165,000,000	5.8
Other mortgages...	4,342,000,000	21.7
Total mortgages.	\$5,507,000,000	27.5
U. S. Government bonds	\$1,468,000,000	7.3
State, county, municipal	1,026,000,000	5.1
Canadian government bonds	450,000,000	2.3
Other foreign government bonds	14,000,000	0.1
Total Government bonds	\$2,958,000,000	14.8
Railroad bonds and stocks	\$2,929,000,000	14.6
Public utility bonds and stocks	1,913,000,000	9.5
Other bonds and stocks	736,000,000	3.7
Total bonds and stocks	\$8,536,000,000	42.6
Policy loans and premium notes..	\$3,315,000,000	16.5
Real Estate	1,548,000,000	7.7
Collateral loans ..	8,000,000	0.0
Cash	550,000,000	2.8
Other admitted assets	586,000,000	2.9
Estimated total assets	21,800,000,000	

Investing for Security

O. J. Arnold, president of the Northwestern National Life Insurance Company, in the course of his address on "Investing for Security—A Life Insurance Service" before the last annual meeting of the Association of Life Insurance Presidents, said:

"That our five-year visitation of economic distress, which has brought disaster to many, has left the institution of life insurance, as a whole, in so strong

a position is due to the facilities, the experience, and the care of the life insurance companies themselves. It is simply the logical outcome of the sound and conservative investment principles which have been worked out and consistently applied over a long period of years.

"In accordance with well-recognized principles, life insurance investments are limited by law chiefly to three general classes, aside from policy loans—namely (1) securities of Federal, State, county and municipal governments, (2) first mortgage real estate loans, and (3) securities of railroads, public utilities, and other corporate enterprises. They are further limited by company policy to only the highest types within the permissible classes, and particularly to those which contribute to the development of essential projects and to the farm, home, and governmental or community activities. Furthermore, they are diversified to a degree perhaps almost beyond the realization of the layman.

Diversification of Investments

"Diversification is an important factor in every phase of the operations of life insurance companies but in no phase of greater importance than in their investment policy. Just as the holders of life insurance policies constitute a selected group of all classes of the whole population from all sections of the country, so do the investments of life insurance companies comprise a selected group of the soundest securities in all the essential business, industrial, and governmental enterprises in all sections of the country. But diversification of life insurance investments implies much more than a distribution of funds among the various general classes of investments, and geographically. Intensive diversification is carried on within each class. Beyond this maturity dates are diversified or "staggered" releasing a stream of inflowing funds which serves to buttress the life companies' premium and interest income. This introduces an element of liquidity, eliminating, to an extent, any necessity which might possibly arise for the sale of securities in a depressed market. Moreover, it assists the life companies in obtaining an average rate of return over a period of years. Times such as the present when funds can be safely reinvested only at a low return are counterbalanced by periods when a better-than-average rate is obtainable. Thus, the life insurance companies neither suffer nor gain by the fluctuations which occur, except in so far as they may be able to adjust average yields through reinvestment in securities of longer maturities in periods of low prices and in shorter maturities in periods of high prices; this with a view toward projecting the higher yields for a longer period into the future, or to obtain reinvestment opportunities to that end when the markets move from a period of high prices into a period of low prices.

"Diversification permits the weakness of one type of investment to be offset against the strength of another and tempers the blow when disaster strikes at one industry or section of the country. It is the wise man's protection against the vicissitudes of life, assuring him that he will not be dealt with too harshly. Wisely exercised diversification in the best of various forms of securities available has been a highly important factor

(Continued on page 58)

THE NEAR FUTURE OF RAMIE

By
Charles R. Pierce
Miami, Fla.

FOR centuries the civilized Chinese grew, spun and wove various textiles into cloths and made superior cordage for numerous uses before the introduction of cotton. Outside of silk the principal fibers used were hemp and ramie. Ramie was favored for its strength and wearing qualities. After the introduction of cotton, the Chinese continued to raise ramie and utilize it both for textiles and cordage. Large quantities of ramie have been exported to various countries including the United States in the form of dried raw ramie fiber called "China grass." Manufactured products have come largely to the United States from Europe.

What Is Ramie?

The question naturally arises, "What is ramie?" Ramie is a plant which produces a fiber growing lengthwise with the plant from the root to the top leaves. The fiber is inside the bark next to the wood center of the plant. It is harvested by cutting the plant above the roots and the fiber is removed by a process called "decortivating." By this process the wood and bark are separated from the fiber. The fiber, when removed from the plant, is embedded in a soft, moist gum, and upon drying the fiber with its outer coating of gum, resembles flat straw, hence the name "China grass."

Luxuriant Growth of Ramie Shoulder-High in South Florida



Several years ago a considerable quantity of ramie was imported into the United States and was utilized as the filament for gas mantles. The fiber was cleaned of the surrounding gum and spun into a fine yarn. The yarn was then made into the shape of the gas mantle and dipped in clay. Upon igniting the gas mantle, the ramie burned readily, almost instantly, leaving the clay mantle in place. The manufacturers of the gas mantles had great quantities of ramie considered not suitable for the gas mantles and this was sold principally to woolen mills to be used as a filler with wool. No apparent effort was made by these manufacturers to find other uses of ramie and when there was no longer a demand for gas mantles, the production of ramie was discontinued.

In the past there have been many proposals to manufacture ramie and ramie products in this country, but most of them quit. We use the term "quit" advisedly for the reason that there appeared to be, after the first disappointment, no effort to continue experimenting along definite lines. Most efforts to manufacture ramie started off with great promises and with practically none of the problems solved. One of the outstanding Government experts who has accumulated more information about ramie than any other person in the country but who has not sought to apply that information, stated that most attempts at manufacturing in this country got the "cart before the horse" and raised their capital before they had even arrived at the "blueprint stage" on the basis of literature and making the most extravagant and preposterous claims for ramie. For example, recent technologists advocated the scrapping of all fibers other than ramie on account of the alleged strength, long wearing qualities and deterioration resistance

Improvement of Process For Producing Spinnable Fiber Another Step In Developing a Ramie Textile Industry In the South

qualities of the fiber. Textile manufacturers, jobbers and retailers could not get much enthused over producing a textile difficult to wear out and which lasts for years because they are interested in the use of great quantities of textiles. The fact of the matter is, that if ramie is firmly established as a textile in this country and large quantities are made and produced, there will be about the same demand as before for cotton, wool, silk and linen.

Results of Experiments

The near future of ramie in this country depends upon three things, agricultural production cheaply and in quantity; practical and workable degumming processes; and delivery of a spinnable product at a comparatively low price.

I do not claim to qualify as an expert nor as a scientist, but I have had several years' experience in experimenting with the growing, decortivating and degumming of ramie. Practically all of the work and experimenting has been done in cooperation with others. In growing ramie, 19 different plantings were made on various types of soil in Dade County, and in Palm Beach County—all in South Florida. Experiments have been tried in seed planting, stalk cuttings and root cuttings. Certain very definite results have been found. While ramie as an individual plant will grow and spread without attention or care in nearly any type of soil in Dade and Palm Beach counties, the commercial production of ramie requires considerable care, skill and attention. The best results appeared to be obtained upon the muck soil of the Everglades protected from overflow. The most practical results are obtained from root cuttings from well-selected stalks planted two and one-half feet apart in rows three feet apart. A very small root cutting is all that is necessary. Cultivation is required between the rows until the plants get a good start. The plant grows rapidly and the roots spread in all directions. Sprouts come from the side roots profusely. Within a year and a half of the original planting the entire ground is occupied with plants and then the commercial production begins. Until the plants have spread and occupy the

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SOUTHERN MOTOR TRUCK LINES EXPAND OPERATIONS

REPORTS submitted by interstate common carrier truck operating companies in the South indicate that before the end of the year the combined fleets will comprise close to 10,000 trucks—the purchases this year for replacement and additions to fleets to exceed 2,800.

The forward-looking plans for Southern operators are revealed by considering that twenty firms, whose fleets now aggregate 436 units will this year purchase 163 units. A breakdown shows that while light pick-ups lead in contemplated purchases that trucks of all types and sizes will be bought in varying numbers.

Trailers and semi-trailers are being widely adopted, such purchases featuring the 1935 programs. And as business of special types offered increases in volume to warrant, operators are investing in units especially designed to handle such shipments expeditiously. This means that the demand is increasing for specially constructed bodies — insulated outfits, refrigerator equipped, closed or furniture van, tank trucks for various liquid commodities, etc.

It is noteworthy that many men with long years of experience in rail and water transportation are connected with the leading motor truck transport firms, and that they are aiding in mapping out plans for the sound development of the industry. So it is, that every type of service offered by the Nation's rail carriers is being efficiently developed by the common carrier truck lines. To pick up and delivery service are being added handling of C.O.D. shipments; shipping dispatch "collect", or "prepaid to terminal"; etc.

The substantial, established firms publish comprehensive "memoranda of class rates" showing in a detailed manner the services offered, routes covered, schedules, rates for commodities of all types, charges for special services, and general rules and regulations. Too, they are gaining additional tonnage through insuring cargoes and carrying adequate public liability, and property damage and compensation insurance.

Brokers, specializing in motor truck transport, figure prominently in the present set-up. They arrange for the handling of less-than-truck and truck load shipments with shippers and then contract with independent truck lines to handle the business, assuming full

responsibility for delivery in first-class shape, and operate on a commission basis. To that end they carry blanket insurance of all essential lines and through rendering efficient service are developing a steadily increasing volume of business. The proposed Federal regulations recognize the broker's place in the present and future highway transportation business, and indications are that more and more business will be handled by firms and individuals operating on this basis.

Reassured by Joseph B. Eastman, Federal Transportation Coordinator that proposed Federal regulation of interstate highway transportation would be fair to motor truck operators, interstate common carrier truck firms in the South, and throughout the country generally are undertaking expansion and development programs.

Designed "not for the purpose of restricting or hampering any form of transportation but to afford an equal degree of opportunity for the development of each" the proposed legislation embodies three major objectives, briefly set forth by Mr. Eastman as follows:

First, prevention of "further oversupply of transportation facilities, through granting permits to all present operators, but requiring newcomers to obtain certificates from the new commission based on proving 'public necessity'."

Second, elimination of "destructive, wasteful competition" between groups and among groups engaged in the respective forms of transportation.

Third, strict adherence to published tariffs, to prevent unjust discrimination among shippers.

Mr. Eastman anticipates that the administration of motor vehicle regulations would be by men familiar with the industry, and that the Interstate Commerce Commission would be enlarged by the appointment of new members, and divisions set up to specialize on each of the four major forms of transportation — rail, water, highway and pipeline — with the chairman of the full commission and heads of the special divisions acting as a control board to govern general policy.

The new legislation, Mr. Eastman points out, is designed to control the "contract carrier to prevent unfair competition with common carriers; the regulation of brokers specializing in highway transportation business; the division of highway carriers into different

2800 New Trucks to be Bought This Year. Trailers and Semi-Trailers Being Widely Adopted. Increasing Demand for Specially Constructed Bodies.

classes because of the nature of their business and for cooperation of the national commission with the State commissions to supplement Federal regulation."

Rather than prove stifling to any special form of transportation, the coordinator sees in the new legislation enlarged possibilities for the "profitable development" of existing transport agencies.

Railroads, too, under the new plan will, Mr. Eastman believes, find a larger use for trucks in terminal service and to supplement and in some instances replace existing rail service particularly on short hauls, and even joint rail-motor freight service in long hauls through the use of demountable bodies, semi-trailers and the like.

Southern firms are meanwhile planning to expand their operations by covering greater mileage, adding to their rolling stock, making arrangements with operators serving distant territories for picking up shipments at union motor freight terminals and speeding delivery, and generally increasing the efficiency of operations.

Lumber Manufacturers Meet

Indications point to a record attendance of Southern pine manufacturers at the 20th Annual Meeting of the Southern Pine Association and Division Code Conferences to be held in New Orleans March 13 and 14. In addition to the Southern pine manufacturers convention, the Hardwood Manufacturers Institute will hold its annual meeting at New Orleans March 11 and 12, and the National Control Committee of the Lumber Code Authority will hold sessions March 12 to 15, inclusive.

All these organizations have scheduled for consideration and action at the New Orleans gatherings, matters of grave concern to their respective branches of the lumber industry. Decisions made by the industry groups are expected to have a far-reaching effect upon future code and trade association affairs.

\$81,000,000 IN NEW CONSTRUCTION SINCE JANUARY 1

BUILDING and engineering contracts let in the Southern States for the four weeks of February amounted to \$29,687,000. Added to the January awards of \$51,397,000, the total for the first two months of this year is \$81,084,000 as compared with \$94,358,000 for January and February, 1934, and \$46,862,000 for the corresponding months of 1933. While there was a decrease of 13 per cent in this year's total, privately financed general building operations and industrial and engineering construction increased. A substantial volume of construction is in the "planned" stage. The first two months of this year showed proposed work and reported contracts to be let aggregated \$125,966,000.

Private Building Gains

Industrial and engineering awards in the South amounted to \$26,821,000 to March 1 compared with \$22,927,000, an increase of 17 per cent over January and February, 1934. General building contracts, apartments, dwellings, bank, office and store structures totaled \$10,472,000, which is a gain of 129 per cent over the total for the same months of last year. The increased activity in industrial building is significant. Purely industrial construction this year called for an outlay of \$13,794,000 or more than half of

the total for industrial and engineering projects combined. The total for February was \$3,098,000 involving a variety of small projects from \$10,000 filling stations to a \$100,000 brewery and including oil refineries, starch plant, glass plant, asphalt, laundry, textile mill additions, ice cream plant, bottling works, dairy etc.

Awards for store buildings during January and February amounted to \$2,522,000, second only in dollar value to contracts let for dwellings. Much modernization is under way.

Residential contracts amounted to \$5,737,000 for January and February which accounted for more than half of the total general building awards to March 1. If the many low cost dwelling projects of less than \$10,000 each are included, the total would be greatly increased. Apartment house and hotel contracts amounted to \$1,436,000 to March 1.

Public Construction

Sewer, drainage and water works contracts for the first two months of this year were \$5,439,000. Indications are that this class of construction will be increased in the near future as many communities have voted bond issues to cover approved PWA loans. Flood control work has been on a large scale.

Awards for Private Industrial and Building Projects in South Gain While Public Work Declines

Levee, revetment and dike contracts total \$4,248,000 to March 1. Public building awards for January and February were \$11,000,000. School building construction has been gaining, contracts let for schools amounted to \$4,115,000. Planned work indicates more than \$13,000,000 of new school construction will soon be ready to let to contract. Total public building construction to March 1, was \$15,115,000 compared with \$26,888,000 for the first two months of 1934. Road and street contracts were \$28,676,000, a decrease of 33 per cent over January and February, 1934.

Proposed Work

Selected News Items Representative of Proposed Southern Engineering and Building Projects Reported During February by the MANUFACTURERS RECORD DAILY CONSTRUCTION BULLETIN

Ala., Montgomery—J. J. Newberry Co., 245 Fifth Ave., New York, erect store Dexter Ave.; \$250,000; let contract Feb. 10; 3 stories and basement; 80x115 ft.; fireproof; granite, limestone and faced brick; install electric elevators.

D. C., Washington—Andrew W. Mellon erect building to house collection of pictures has site on Mall west of Twelfth St.; Charles A. Platt, Archt., 101 Park Ave., New York.

Fla., Miami—Llewellyn Machinery Corp., N. E. Second Ave. and 71st St., plans rebuilding burned portion of plant.

Fla., Miami Beach—Henry J. Moloney, Archt., Professional Bldg., Miami, completed plans for 140-room, New Hotel Evans, at Collins Ave. and Tenth St., for Isidore Evans, Loch Sheldrake, Sullivan County, N. Y.; Spanish renaissance type; 5 stories.

Fla., Tampa—Consolidated Lithographing Corp., Brooklyn, N. Y., plans establishing lithographing plant.

Ga., Atlanta—Kraft-Phenix Cheese Corp., 400 Rusk St., Chicago, Ill.; has plans nearing completion by H. Martenson, 400 Rusk St., Chicago, for erecting 2 buildings, cost \$200,000, at 890 Fair St., S. E.; 2 stories; rein. conc.; brick, hollow tile, struc. steel; tar and gravel roof; plumbing and steam heat; Don Belmer, Supt., 890 Fair St., S. E., Atlanta.

(Continued on page 32)

SOUTHERN CONSTRUCTION ACTIVITIES

	February, 1935		January-February, 1935	
	Contracts Awarded	Contracts to be Awarded	Contracts Awarded	Contracts to be Awarded
General Building				
Apartments and Hotels	\$266,000	\$541,000	\$1,436,000	\$2,831,000
Association and Fraternal ...	15,000	150,000	40,000	250,000
Bank and Office	295,000	85,000	470,000	140,000
Churches	97,000	430,000	267,000	775,000
Dwellings	1,979,000	1,502,000	5,737,000	4,665,000
Stores	2,127,000	1,335,000	2,522,000	1,992,000
	\$4,779,000	\$4,043,000	\$10,472,000	\$10,653,000
Public Buildings				
City, County, Government and State	\$5,360,000	\$6,970,000	\$11,000,000	\$9,596,000
Schools	1,676,000	2,961,000	4,115,000	13,416,000
	\$7,036,000	\$9,931,000	\$15,115,000	\$23,012,000
Roads, Streets and Paving.....	\$10,969,000	\$10,910,000	\$28,676,000	\$28,919,000
Industrial and Engineering Projects				
Dredging	\$590,000	\$1,582,000	\$2,815,000	\$3,931,000
Filling Stations, Garages, etc.	143,000	210,000	525,000	542,000
Industrial Plants	3,098,000	10,298,000	13,794,000	46,803,000
Levees, Revetments, Dikes, etc.	1,783,000	1,129,000	4,248,000	5,129,000
Sewers, Drainage and Water-works	1,289,000	1,500,000	5,439,000	6,977,000
	\$6,903,000	\$14,719,000	\$26,821,000	\$63,382,000
Total	\$29,687,000	\$39,603,000	\$81,084,000	\$125,966,000

WORLD'S GREATEST BRIDGE ..

in the making



EAST and West of its pivot on Yerba Buena Island simultaneously proceeds the erection of the San Francisco-Oakland Bay Bridge—a double deck structure which, with its approaches, will measure $8\frac{1}{4}$ miles in length. Many of the riveted spans of the east crossing are now in place; and of the four steel towers that will support the twin suspension spans of the west crossing, three are already completed.

This greatest of bridges—greatest in depth of piers, greatest in length, greatest in tunnel bore at the island—also establishes a record for the largest steel order ever placed under one contract. Of the total—some 180,000 tons—about 18,000 tons represent steel wire for the cables that are to support the floors of the twin suspension spans.

All structural steel is to be fabricated and erected by American Bridge Company. The Columbia Steel Company, also a subsidiary of United States Steel Corporation, has the general contract for the entire steel superstructure.

Other United States Steel Corporation subsidiaries contributing their products to this gigantic project are Carnegie Steel Company, Illinois Steel Company, American Steel & Wire Company, National Tube Company, and The Lorain Steel Company.

AMERICAN BRIDGE COMPANY

GENERAL OFFICES: FRICK BUILDING • PITTSBURGH, PA.

Baltimore Boston Chicago Cincinnati Cleveland Denver Detroit Duluth Minneapolis New York Philadelphia St. Louis Salt Lake City
Pacific Coast Distributors: Columbia Steel Company, San Francisco • Export Distributors: United States Steel Products Company, New York

United States Steel  *Corporation Subsidiary*

MARCH NINETEEN THIRTY-FIVE

Proposed Work

(Continued from page 30)

Ga., Atlanta — Oscar S. Oldknow, 1050 Springdale Rd., N. E., plans rebuilding burned dwelling; cost \$50,000; 2 stories and basement; 10 rooms; conc. found.; brick and frame walls; hardwood and tile floors; tile or slate roof; wiring and steam heat; Tucker & Howell, Archts., 1711 Rhodes Haverly Bldg.

Ga., Augusta — Batson-Cook Co., West Point, low bidders at \$127,350 for alterations and additions to post office, bids by Treasury Dept., Washington, D. C.

Ga., Augusta — Roche, Connell & Laub Construction Co., Cincinnati, Ohio, low bidders on delayed bid at \$124,990 for construction, alterations and additions to post office.

Ga., Brunswick — Glynn County Commrs., received following low bids for airport, pier and boat house at St. Simons Island; Hardaway Contracting Co., Columbus, Ga., at \$64,430, for airport proper; S. B. Slack, Atlanta, at \$91,085, for hangar and other equipment for airport; Windsor Construction Co., Brunswick, at \$33,400 for pier and boat storage.

Ky., Lexington — Thomas B. Cromwell, Thoroughbred Club of America, plans constructing race track; cost \$250,000.

Ky., Winchester — Bids for courthouse addition will probably be opened in Spring by Clark County Fiscal Court; building to be 3 stories, 60 x 27 ft., steel and rein. conc., linoleum floors, conc. foundation, steam heat, wood sash, composition roofing; John Gillig, Lexington, Archt.

La., Lafayette — Maurice Heymann, Heymann Dept. Store, having plans prepared by Favrot & Reed, Archts., Nola Bldg., New Orleans, and Frederick J. Nehrbass, associates, Lafayette, La., for 1 story, 92x200 ft. store; cost \$50,000.

La., Mansfield — Harry Brothers Co., 3505 S. Carrollton Ave., New Orleans, has contract for furnishing steel and erecting addition to trailer plant of W. C. Nabors; H. M. Silvers, Mansfield, has contract for laying conc. floor and base work for wall girders.

La., Morgan City — List and Weatherly Construction Co., Kansas City, low bidder at \$95,414 for constructing approaches and overpass over the Southern Pacific Railroad.

La., New Orleans — McWilliam Dredging Co., 1021 Hibernia Bldg., New Orleans, has contract at \$678,900, for constructing approximately 3,100,000 cu. yd. earthwork in Second New Orleans Dist., 2 in Ramah-Grand River and 2 in Grand River-Bayou Sorrell levee.

La., New Orleans — United Theatres, Inc. having plans prepared by Herbert A. Benson, 408 Audubon Bldg., New Orleans, for Carrollton Theatre, Carrollton Ave. near Canal St.; replacing burned building; stone and brick exterior; acoustical treatments; install cooling plant, heating system.

Md., Baltimore — Dr. Herbert E. Zepp, 3048 Archt., 601 W. 40th St., plans erecting ten 2½-story brick dwellings, south side of Lake Ave., Cedarcroft section; found. for entire group to be laid at once; investment of \$110,000.

Md., Baltimore — Dr. Herbert E. Zepp, 3048 W. North Ave., receives bids about April 1 for addition to apartment, 6 suites; John R. Forsythe, Archt., 16 E. Fayette St.

Md., Baltimore — Abe Goodman, 2000 Whittier Ave., low bidder at \$123,576, for store Monument and Chester Sts., for Levenson & Klein; David Harrison, Archt., 910 E. Baltimore St.; Roland Electric Co., 418 E. Pratt St., low on electric work; Hubert Plumbing Co., 330 St. Paul St., on plumbing; Goldman Bros., 1201 North Ave., at \$7,050 for heating; James Posey, Baltimore Trust Bldg., Mech. Engr.; Kubitz & Koenig, Emerson Tower Bldg., Struc. Engr.

Miss., Hattiesburg — E. C. Hearon & Sons, Hattiesburg, will have plans completed by March 1 for building for Domestic Silks Corp., 463 Seventh Ave., New York; 1 story; 137x270 ft.; brick; probably receive bids March 10; mechanical work, steel and material by separate contract; of saw tooth construction, steel sash, install heating plant, sanitary sewer connections; sprinkler system.

Miss., Jackson — Wm. M. Snyder, Atty., New Merchants Bank Bldg., represents client considering establishment of carton manufacturing plant, also represents company contemplating erection of \$2,000,000 manufacturing plant near Jackson.

Mo., Kansas City — Bell Memorial Hospital plans erecting children's clinic, approx. \$60,000, and new brick building replacing present frame structure used by negroes, approx. \$225,000; children's clinic, plans now being prepared, will be fireproof; plans by State Archt.

Mo., St. Louis — The Kloster Co., 5215 S. Grand Blvd., low bidder at \$12,799 for power house for Pevley Dairy Co., Grand and Chouteau; 1 story, brick and conc.; Leonard Haeger, Archt., 3844 Utah Place.

Mo., St. Louis — Treasury Dept., Procurement Division, Public Works Branch, Washington, D. C. will have plans ready probably about April 1 for post office, Market St., Clark Ave., 17th and 18th Sts., cost approx. \$4,700,000; structure will be 2 and 3-stories, basement and sub-basement, stone, brick, steel and conc. foundation, approx. 327x487 ft.; Klipstein & Rathmann, 316 N. 8th St., Archt., W. J. Knight & Co., 901 Wainwright Bldg., Struc. Engr.

Mo., St. Louis — Union-May-Stern Furniture Co., M. C. Myerson, Pres., 1126 Olive St., plans improvement to store Twelfth and Olive Sts.; new fronts, mezzanine floor, elevator, etc. cost \$100,000; Nat Abrahams, Inc., Archt.-Bldr., 817 N. Ninth St.

Mo., St. Louis — H. B. Deal & Co., 1219 Olive St., low bidder at \$359,340 for South Ward Bldg. of Homer G. Phillips Hospital for negroes, Albert Osburg, Archt., City Hall.

Mo., St. Louis — Union-May-Stern Furniture Co., M. C. Mayson, Pres., acquired 8 story building southeast corner of Twelfth Blvd. and Olive St.; will expend \$100,000 for improvements.

N. C., Charlotte — Arthur H. Goodwin, 256 N. 21st St., New York, has option on several tracts in southern Mecklenburg county, containing gold deposits; plans establishing \$35,000 ore mill.

S. C., Hartsville — Wheatley & Mobley, Augusta, Ga., low bidders at \$112,981 for Community Center Bldg.; Lafaye & Lafaye, Archts., Columbia.

Tenn., Chattanooga — Tennessee Electric Power Co. will expend \$250,000 out of budget of \$1,300,000 in Chattanooga; included is item of \$185,000 for twenty-three 30 passenger buses to replace street cars on Ross-

ville and East Lake car lines; utility expenditure in electrical department in Chattanooga will amount to \$350,000 for extension to rural and urban customers, for strengthening present distribution facilities, substation improvements; transformers; expend \$20,000 laying new track east side Market St., between Fourth and Fifth.

Tenn., Knoxville — V. I. Nicholson Co., Knoxville, low bidder at \$110,977 for constructing new viaduct, replacing Oak Ave. bridge.

Tenn., Monterey — Volz Construction Co., Memphis, low bidder at \$43,403, for Section A of water works, W. L. Hailey & Co., Nashville, at \$6590 for water supply. Sec. B; Chicago Bridge & Iron Works, Birmingham, Ala., at \$11,500, for tank and tower Sec. C; J. B. McCrary Engineering Co., Atlanta, Ga., Engrs.

Tenn., Vonore — Fort Loudon Products, Inc., James C. Carson, Pres., J. H. Warlick, Sec.; plans establishing sweet potato plant on 85 acre tract on Little Tennessee River 1 mile from Vonore; construct 50,000 bu. storage house for grading potatoes; steam heated.

Tex., Fort Sam Houston — U. S. Govt. Capt. A. F. Dersheimer, Constr. Quartermaster, San Antonio and vicinity, Bldg. 77-44 Argonne Heights, Austin Road, Ft. Sam Houston, has low bid of \$402,110 from Robert E. McKee, 1900-1932 Texas St., El Paso, for constructing medical detachment barracks and nurses quarters.

Tex., Galveston — John Young, Inc., leased for 29 years, 150 ft. channel with depth of 1000 ft. for establishment of ship building and repair yard, marine ways, docks and sheds.

Tex., Houston — Horwitz-Hoblitzelle, start work on Main St. Theatre, Main and Travis, Roswood and Ruths Sts., also start work on 4 story conc. ramp garage part of project involving theatre at Capital and Milam Sts., now nearing completion; theatre will be of steel, brick, conc. and art stone; seating capacity 1000; install all modern theatre equipment; amphitheatre type; conc. found., no basement; Henry F. Jones & Tabor, Union National Bank Bldg., Archts. and will supervise construction.

Tex., Houston — Federal Land Bank, A. C. Williams, Pres., opens bids March 14 for 3-story annex to building.

Tex., Houston — Southern Container Co., 6037 Esperson St., plans \$75,000 expansion program Navigation Blvd. at Greenwood.

Tex., Houston — Filtrrol Company of California, J. W. Bell, Mgr., 1755 Downey Rd., Los Angeles, Calif., has site of 24 acres at Greens Bayou, soon begin construction of plant for manufacture non-metal filters for use by refineries; expenditure of \$300,000.

Tex., Port Arthur — Plattman's Three Way Grocery, 600 block Proctor St., erect \$100,000 store New Orleans Ave. and Proctor St.; 1 story; 120x160 ft.; brick, steel and stone; fireproof.

Va., Clifton Forge — Chesapeake and Ohio Railroad authorized constructing 50-bed annex to present C. & O. Hospital at Clifton Forge. Bids will be opened probably early in March.

West Virginia — Keeley Construction Co., Clarksburg, low bidder at \$501,015 for construction 7.3 mi. skyline drive in Shenandoah National Park, Swift Run Gap to Simons Gap, for U. S. Bureau of Public Roads.

(Continued on page 34)

GIVE HIM LONG DISTANCE



HE'S a valuable man. His tact and skill turn tough prospects into good customers. But he's been handicapped by a lack of working facilities.

Give him *modern*, efficient equipment — give him Long Distance Telephone Service — and watch him step up sales. North, South, East, West, he can pick out prospects and talk to them direct, without delay. He's *there* when orders are being placed. Two-way discussion answers questions, adjusts complaints, quickly and clearly. Deals are completed in minutes, instead of days. Faster service brings repeat business.

Systematic users of Long Distance Service find it sound economy. The Atlantic Refining Company says, "Long Distance gets results . . . saves us money and time." In one month the Debevoise Anderson Company made 500 telephone calls, which produced

450 orders, amounting to \$33,000, at a cost of $\frac{1}{2}$ of 1% of sales. The Pillsbury Flour Mills Company writes, "We consider our Long Distance telephone bill one of the best investments we make."

Your local Bell Company will gladly suggest a telephone plan to fit the special needs of *your* business. Just call the nearest Business Office. No charge or obligation.

TYPICAL STATION-TO-STATION RATES

From	To	Daytime	7 P.M.	8:30 P.M.
Pittsburgh	Cleveland	\$.70	\$.60	\$.40
Minneapolis	Denver	2.75	2.25	1.50
Boston	Chicago	3.25	2.65	1.75
New York	Kansas City	4.00	3.25	2.25
New Orleans	San Francisco	7.00	5.50	4.00

For specific rates from your city to any other, consult your telephone directory or ask the operator.

Bids Asked

(Continued from page 32)

Ga., Cedartown—City, Dr. J. J. Cooper, Mayor, opens bids March 11 for constructing city hall and fire station, cost. \$55,000, 2-stories and basement, rein. conc., brick, hollow tile, struc. steel, composition roof, plumbing, wiring and steam heat, etc.; Odus Clay Poundstone, Archt., 101 Marietta Bldg., Atlanta, Ga.

La., New Orleans—Leo S. Weil and Walter B. Moses, Engrs., 427 S. Peters St., receive bids March 12 for installing 100 ton air conditioning plant in 7 story building 828 Canal St. for Leon Godehaux Clothing Co., Ltd.; cost \$50,000.

Md., Cumberland—Proposed \$700,000 junior-senior high school, bids March 15 by Allegany County Board of Education, Ferman G. Pugh, Pres., Cumberland, will be 3-story building; 400 x 600 ft.; brick exterior trim; floors of wood, terrazzo, cement; wood, metal sash; plank and built-up roofing; steam unit vents type heating; Robert Holt Hitchins, Archt.

Md., Cumberland—Allegany County Board of Education, Ferman G. Pugh, Pres., Charles L. Kopp, Supt., South Centre St., Cumberland, opens bids March 15 for constructing junior-senior high school; Robert Holt Hitchins, Archt.

Md., Upper Marlboro—School Comms., Prince George's County, Nicholas Oren, Supt., Courthouse, Upper Marlboro, opens bids March 12 for constructing 2-story, brick; colored school; Upman & Adams, 744 Jackson Place, Washington, D. C., Archts.

Miss., Gulfport—Veterans Administration, Room 746, Arlington Bldg., Washington, opens bids March 19 for constructing garage and utility shops building No. 33 at Veterans Administration Facility, involving: Roads, walks, gdg., rein. conc., hollow tile, brickwork, compressed asp. tile, waterproofing, iron work, steel sash, steel partitions, built-up roofing, roof ventilators, insulation, metal lathing, plastering, carpentry, insect screens, painting, glazing, hardware, plumbing, heating, electrical work and outside service connections.

Mo., St. Louis—U. S. Engr. Office, Room 428, Customhouse, receives bids April 1 for Dam No. 26, Mississippi River, on Missouri shore, opposite Alton, Ill.

Tenn., Jackson—City Comsn., Lawrence Taylor, Mayor, E. R. Dike, City Engr., opens bids Mar. 12 for constructing inclinator, capable of destructing 40 tons of mixed refuse in 24 hours, and erecting building inclosing same; approx. cost \$25,000 to \$30,000.

Tenn., Knoxville—Dir. of Purchases, Tennessee Valley Authority, Knoxville, opens bids March 18 for construction of superstructure for Clinch River bridge, approximately 12 mi. southwest of New Tazewell, consisting of 4 252-ft. steel truss spans and 17 steel beam viaduct spans of approximately 55-ft. with rein. conc. roadway deck 24 ft. between curbs.

Tenn., Knoxville—Dir. of Purchases, Tennessee Valley Authority, Knoxville, opens bids March 11 for construction of bridges over Robinson Creek, Chambers Creek and Lick Creek, on principal road from Tulu to Pickwick Landing dam site, on Tennessee River.

Tex., Boerne—Kendall County, M. J. Lehman, County Judge, opens bids March 11 in office of County Clerk, Court House, Boerne, for courthouse addition and remodeling; 1-story addition, approx. 26 x 90 ft., county offices on ground floor, gen. repairs and modernizing; A. L. Pearson, Boerne, Archt.

Tex., Dallas—Treasury Dept., Procurement Division, Public Works Branch, Washington, D. C., opens bids March 11 for air conditioning for post office and courthouse.

Tex., Galveston—Treasury Dept., Procurement Division, Public Works Branch, Washington, D. C., opens bids March 14 for constructing sleeping porches and bath at U. S. Marine Hospital.

Tex., Houston—Harris County, Charles R. Haile, County Engr., H. L. Washburn, Auditor, opens bids March 15 instead of March 27 for constructing Tidwell Road.

Tex., Normangee—City receives bids March 13 for deep well and pump, Leon County, Culpepper & Flagg, Engrs., Houston.

Tex., Paris—City receives bids March 12 for sewer system improvements; loan and grant of \$90,000 approved; J. M. Crook, Mayor; Hawley, Freese & Nichols, Engrs., Capps Bldg., Fort Worth.

Tex., Pecos—Treasury Dept., Procurement Division, Public Works Branch, Washington, D. C., opens bids March 14 for passenger elevator for post office and courthouse.

Tex., San Antonio—Treasury Dept., Procurement Division, Public Works Branch, Washington, D. C., opens bids April 12 for constructing \$1,525,000 post office and court house: Houston, Travis, North Alamo Sts., and Ave. E; 5-stories and basement, irregular shape, Spanish type, interior court, office wings on Ave. E and N, Alamo, double row offices on Travis St., stone exterior, granite base, struc. steel and rein. conc., conc., wood block, tile and marble floors, tile roof; Ralph H. Cameron, Majestic Bldg., Archt., Paul P. Cret, 112 S. 16th St., Philadelphia, Pa., Conslt. Archt., R. F. Taylor, 4301 Main St., Houston, Mech. Engr.

Tex., Seguin—Guadalupe County, H. A. Heideke, County Judge, opens bids March 11 for constructing 3-story county courthouse and jail, 73x121 ft., rein. conc. frame construction, conc. floor and roof slab, exterior faced limestone, hollow tile backing, interior partition hollow tile and plaster, steel sash, terrazzo floors in corridors, marble risers, steel stairways with terrazzo treads, marble risers and aluminum rails, asp. floor tile; jail, 3-stories, approx. 32x45 ft., monolithic conc. construction, conc. slab and built-up roof, conc. floors. L. M. Wirtz, Archt., 1305 Blodgett St., Houston and Field Office, Seguin; J. W. Beretta Engineers, Inc., National Bank of Commerce Bldg., San Antonio, Engrs.

Tex., Victoria—City, Ben T. Jordan, Mayor, opens bids March 18 for constructing municipal assembly hall, 1-story, conc. and struc. clay tile construction; Kai J. Leffland, 401 Victoria National Bank Bldg., Victoria, Archt.

W. Va., Fairmont—A. M. Rowe, Inc., operators of radio station WMMN, 325 Adams St. plans \$50,000 expansion program; install transmitter, construct vertical tower, etc.; erect studio at Clarksburg.

Contracts Awarded

ALABAMA—West Construction Co. of Tennessee, Riverside Drive & Sholar Ave., Chattanooga, Tenn., Gen. Contr. at \$189,287 for 6.077 mi. limerock asp. pavement on bit. conc. base with bridges in Coosa-Tallapoosa Counties, let following sub-contracts: Cement, National Cement Co., Birmingham, Ala.; pulverized asp. limestone, Alabama Asphaltic Limestone Co., Birmingham; slag and sand, Birmingham Slag Co., Birmingham; guard rail, Truscon Steel Co., Youngstown, Ohio.

Ala., Birmingham—C. W. Hardy, Ensley, has contract, at \$117,000 work to start at once on 60 four and five room dwellings at Palmer Station, Jefferson County for Federal Subsistence Homestead; Grayson Lumber Co., has contract for 1,000,000 ft. of lumber and other building materials.

Ala., Montgomery—Bear Lumber Co., Tallapoosa, has permit for 3-story and basement building, 5-7-9 Dexter Ave.; J. J. Newberry & Co., 245 Fifth Ave., New York, Lessee; Bear Lumber Co. will also demolish 3 buildings on site; cost \$98,700.

Ark., Little Rock—Ozark Distillers, Inc.; capital \$115,000; Wm. F. Clements, Little Rock; A. S. Bullock, Fort Smith; manufacture wine at plant at Springdale, Washington county; 200,000 gal. wine and 100,000 gal. brandy yearly output.

D. C., Washington—G. F. Mikkelsen & Son, 200 W. Thornapple, Chevy Chase, Md., erect 70 dwellings on Rittenhouse, Thirty-third, Stephenson and Broad Branch Rd.

Florida—Clark Dredging Co., Miami, has contract at \$72,900, for dredging Lake Worth Inlet.

Ga., Savannah—Leopold Bros., Inc., 723 Habersham, let contract to R. J. Whalley & Co., 404 E. Bay St., for remodeling building Gwinnett and Habersham Sts. for ice cream manufacturing plant; exterior of face brick, chromium metal and plate glass; install soda fountains; tile and terrazzo work by Dan J. Sheehan Co.; electric work by Peerless Electric Co.; plumbing by Edward Broderick, Jr.; Levy & Clarke, Archts.

KENTUCKY—State Highway Comsn., Frankfort, let contracts for projects in following counties:

Adair—Columbia-Albany Road, 8.6 mi. surf.; Nally & Mudd, Springfield, Ky., \$20,950;

Anderson - Spencer—Lawrenceburg - Mt. Eden Road, 7.8 mi. surf.; R. H. Waters, Boston, Ky., \$25,921;

Boyd—Street in Catlettsburg, .5 mi. surf.; Robert M. Robinson, Owensboro, Ky., \$6,015;

Daviess—Second Street in Owensboro, .5 mi. surf.; W. F. Robinson & Son, Owensboro, \$29,527;

Graves—Tri City-Lynville Road, 3.7 mi. grade and drain; R. F. Pryor & Co., Mayfield, Ky., \$17,125;

Hancock—Hawesville-Fordsville Road, 4.6 mi. grade and drain; Carl Meyers, Campbellsville, Ky., \$37,522;

Livingston—Marion-Smithland Road, 4 mi. surf.; H. L. Johnson & Co., Lewisport, Ky., \$41,823;

McCracken—Paducah-Wickliffe Road, 10 mi. surf.; N. E. Stone & Co., Madisonville, Ky., \$80,368;

Morgan—Hazel Green-Cannel City Road, 5.2 mi. surf.; Amos Day, West Liberty, Ky., \$33,717;

Rockcastle—Brodhead-Eubanks Road, 2.7 mi. grade and drain; Blair & Franse Construction Company, Lexington, \$17,727. (Low bidders, 2-14)

(Continued on page 36)

VIRGINIA BRIDGE

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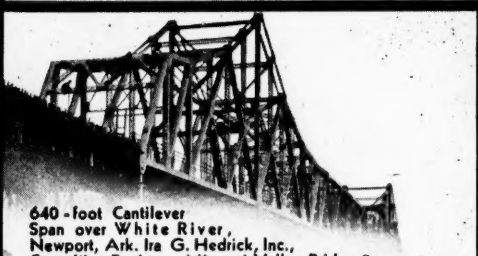
720-foot Cantilever Highway Span over White River, Clarendon, Ark., manufactured and erected by us. Ira G. Hedrick, Inc., Consulting Engineer, Austin Bridge Co., General Contractors.



766-foot continuous span over Tennessee River, Scottsboro, Ala. Kansas City Bridge Co., General Contractors.



766-foot continuous span and four 300-foot spans over the Tennessee River at Whitesburg, Ala. Hardaway Contracting Co., Gen'l Contr's. We manufactured and erected this steelwork, as well as the Scottsboro Bridge above.



640-foot Cantilever Span over White River, Newport, Ark. Ira G. Hedrick, Inc., Consulting Engineer; Missouri Valley Bridge & Iron Co., Gen'l Contr's. We furnished a duplicate of this span for White River Bridge at New Augusta, Ark.

Contracts Awarded

(Continued from page 34)

LOUISIANA — State Highway Comsn., Baton Rouge, let contracts for projects in following counties:

Caddo—5.205 mi. conc., Hosston-Arkansas state line highway, Flenniken Construction Co., Shreveport, \$148,908;

Caddo—Roadside beautification, 6.817 mi. Greenwood-Bethany highway, Lambert Landscaping Co., Shreveport, \$14,799. (Low bidders.)

La., Baton Rouge—Baton Rouge Coca Cola Bottling Co., erecting workshop and garage, 201 Spain St., approximately 30 garages will be provided in structure; fireproof; brick and steel; L shaped 160 x 120 ft.; considering erection of plant on site of present structure; 2 stories; triple A type; all steel and conc.; 110 x 66 ft.; plans by Norman H. Divere, Archt., Thibodaux.

La., Bogalusa—H. J. Cowgill, Bogalusa, has contract for addition to warehouse for New Orleans Corrugated Box Co.; 1 story and basement; 200x78 ft.; brick and steel; conc. floors; comp. roof; T. T. Dunn, Engr.

La., Mansfield—W. C. Nabors construct addition to plant for manufacture of cane trailers and vans for hauling of freight; H. M. Silvers, Mansfield, has contract for laying conc. floor and base work for wall girders; steel; 42x200 ft.

Md., McDonough—Engineering Contracting Corp., 504½ St. Paul St., Baltimore, has contract at \$21,800 for constructing 2½-story residence at McDonough School, Major Louis Lamborn, Headmaster.

MISSISSIPPI — State Highway Dept., Jackson, let contract for projects in following counties:

Yalobusha—PW Proj. NRH 45, 4.297 mi. gdg., drg. struc. and bridges, Grenada-Memphis (Tenn.) Highway, Rouse Construction Co., Cape Girardeau, Mo., \$61,005;

DeSoto—PW Proj. NRM 94, NRM 131, 0.665 mi. gdg., drg. struc. and paving, Memphis-Jackson Highway, Mike Harvey, Batesville, Miss., and E. O. Korsmo Construction Co., Memphis, Tenn., \$58,655;

DeSoto—PW Proj. NRH 94, NRH 131, 1.919 mi. gdg., drg. struc., bridges and pavement, Memphis, (Tenn.)-Jackson Highway, Barber Brothers Contracting Co., Baton Rouge, La., \$33,715;

Rankin—PW Proj. NRH 163, NRM 163, 6.752 mi. gdg., drg. struc., bridges and bit. surf., Jackson-Meldian Highway, Cobb Brothers Construction Co., Meridian, Miss., \$99,655. 2-8, 2-11

Miss., Canton—Bethlehem Steel Co., Bethlehem, Pa., has contract for 112,000 ft. of 6½-in. O. D. steel pipe for laying pipe line from Jackson natural gas field to Canton; PWA project; Black & Veatch, Conslt. Engr., Mutual Bldg., Kansas City, Mo.

Mo., Mexico—John Epple Construction Co., Columbia, has contract for residence for Arthur D. Bond; 2 stories and basement; brick; 115 ft. long; garage attached; slate roof; air conditioning; cost \$40,000; Studt & Farrar, Archts., 1363 Arcade Bldg., St. Louis.

Mo., Southwest City — Rex Construction Co., Joplin, Mo., has contract for water works system; Albert C. Moore, Conslt. Engr., Joplin.

Mo., St. Louis—Fox Bros. Mfg. Co. has contract for millwork for plant for Griddleck Brothers Brewery Co., 1926 Shenandoah Ave.; J. E. Williams Construction Co., Gen. Contrs., 6914 Dartmouth Ave., University City; Vickery Brick Laying Co., for brickwork; Niehouse Plastering Co., for plastering; Brennan & Yengst Painting Co., for painting; Edward Gallagher & Co., for plumbing; LaSalle Iron Co., for iron work; Guaranty Electric Co., all St. Louis, for electric work; Wm. B. Ittner, Inc., Continental Life Bldg., Archt.

Mo., St. Louis—City, Bd. of Standardization, let contract to General Fire Truck Corp., 4127 Forest Park Blvd., at \$60,116, for six 750-gal. Monarch pumpers; to Mack International Motor Truck Corp., Jefferson and Choteau Aves., at \$15,081, for 85-ft. aerial truck with double bank mounting of ladders with cab.

Mo., St. Louis—Stamm Construction Co., has contract for 1000 capacity motion picture theatre west side of S. Kingshighway, between Chippewa and Winona Sts., for Avalon Theatre Corp.; cost \$50,000; 1 story; fireproof; brick, terra cotta and struc. glass; install summer cooling device; A. F. and Arthur Stauder, Archts.

N. C., Misenheimer—L. S. Bradshaw, Salisbury, has contract at \$175,000 for erecting 5 buildings at Ebenezer Mitchell School; Odis Clay Poundstone, Archt., 101 Marietta Bldg., Atlanta, Ga.

Okla., Hooker — C. L. Burt, Hutchinson, Kansas, has contract for municipal gas distribution system; cost \$52,000; R. E. Devlin, 319 W. K. H. Bldg., Wichita, Kansas, Engrs.

SOUTH CAROLINA—State Highway Dept., Columbia, let contracts for projects in following counties:

Laurens—4.78 mi. bit. surf., Route 392, near Cold Point, S. S. Newell Co., Greenville, \$40,596;

Darlington—4 mi. bit. surf., Route 763, between Darlington and Lamar, L. M. Gray, Gainesville, Fla., \$41,254;

Lee—Widening .45 mi., Route 401, Bishopville, Carolina Contracting Co., Columbia, \$15,529;

Marlboro—Bit. surf. 5.9 mi., Route 381 from McColl to Clio, Hubbard Construction Co., Marion, \$59,312;

Darlington—Constr. 2 treated timber bridges, Route 763, between Darlington and Lamar, Robert Lee, Myrtle Beach, \$8,552. (Low bidders.)

South Carolina—MacDougald Construction Co., Hemphill Ave., Atlanta, Ga., has general contract at \$197,749 for constructing highway-railway bridge at crossing of Atlantic Coast Line Railroad in Horry County near Myrtle Beach.

S. C., Williamston—Fiske-Carter Construction Co., Greenville, has general contract for water works, Chicago Bridge & Iron Work, sub-contract for tank; work to start immediately; \$140,000 PWA funds available.

Tenn., Knoxville — City, W. W. Mynatt, Mgr., Harry J. Wight, Dir. of Public Service, Hal H. Hale, City Engr. and L. M. Dow, Res. Engr., let contract to V. L. Nicholson Co., 611 S. Central, Knoxville, at \$110,977 for constructing 750 ft. bridge over Southern Railway and L. & N. Railroad; plain conc., rein. conc., earth exca., rock exca., rein. steel, filling, creosoted piling, sheet asp. and binder.

Texas—Apex Construction Co., 2206 Second Natl. Bank Bldg., Houston, awarded contract for constructing approximately 63 miles of various diameter welded steel lines, 2-in. to 20-in. in connection with construction of new gasoline absorption plant for Sabine Valley Gasoline Co., H. R. Dickerson, Pres., Shreveport, La., cost of entire project, including plant, will exceed \$500,000; completed by June 1; plant is located in East Texas field, southwest of Longview, Tex.

Tex., Austin—Renselaer Valve Co., Troy, N. Y., has contract for valves for \$150,000 water line extension, North Austin; Columbian Iron Work, Chattanooga, Tenn., for fire hydrans; U. S. Pipe & Foundry Co., Birmingham, Ala., for pipe; Tips Engine Works, Heleman Industries, Austin, fittings; Mueller Co., Decatur, Ill., copper goosenecks.

Tex., Brownsville—Dodds & Wedegartner, San Benito, has contract at \$53,210, for pump house, laying pipe from resaca to river, constructing pump house to river, etc.; Valley Gunite Co., Harlingen and San Benito, at \$20,295, for new canal from river to city reservoir, including earthwork, bridges, gates, sodding and guniting of canal; Homer E. Peterson, Houston, at \$9000 for 2 smokestacks at water and light plant and Harry Pollard, Corpus Christi, for material for spray pond; Henry E. Elrod, Conslt. Engr., 316 Petroleum Bldg., Houston. (Low bidders.)

Tex., Del Rio—City let contract to Ulen Co., San Antonio, at \$66,928 for San Felipe water works system.

Tex., Huntsville—Board of Trustees, Sam Houston State Teachers College, let following contracts for constructing proposed 4-story brick girls' dormitory: **Gen. Contract**, J. E. Morgan & Sons, El Paso, \$105,398; **plumbing**, O. R. Swanson & Co., Houston, \$20,500; **electric**, William Smith Electric Co., Dallas, \$8,350; W. E. Ketchum, 1615 South Congress Ave., Austin, Archt.

Va., Norfolk—E. E. Waddle & Co., Bd. of Trade Bldg., has contract for \$43,000 building for Colonial Oil Co. at Boush and Olney Rds.

Va., Petersburg—Peters Construction Co., Monticello Arcade, Norfolk, has contract at \$68,630 for constructing addition to gymnasium and 8-car garage at Virginia State College for Negroes.

Va., Quantico—Navy Dept. let contract at \$84,750 to W. P. Thurston Co., Richmond, for completion of hangars; Spec. 7508.

WEST VIRGINIA — State Road Dept., Charleston, let contracts for projects in following counties:

Tyler—Proj. (3291-A) PWA (2197) 103 A and B, 147-A and 183-A, Edmonds & Co., Princeton, W. Va., \$9,547;

Ohio—Proj. (5045) PWS (2197) 838, Allied Products Co., Cleveland, Ohio, \$51,996;

Marshall—Proj. PWS (2197) 184-A, Edmonds & Co., Princeton, W. Va., \$25,680;

Monongalia, Taylor—Proj. (3477-B, 3479-B) NRS 239-A and B, Weirton Construction Co., Weirton, W. Va., \$104,760;

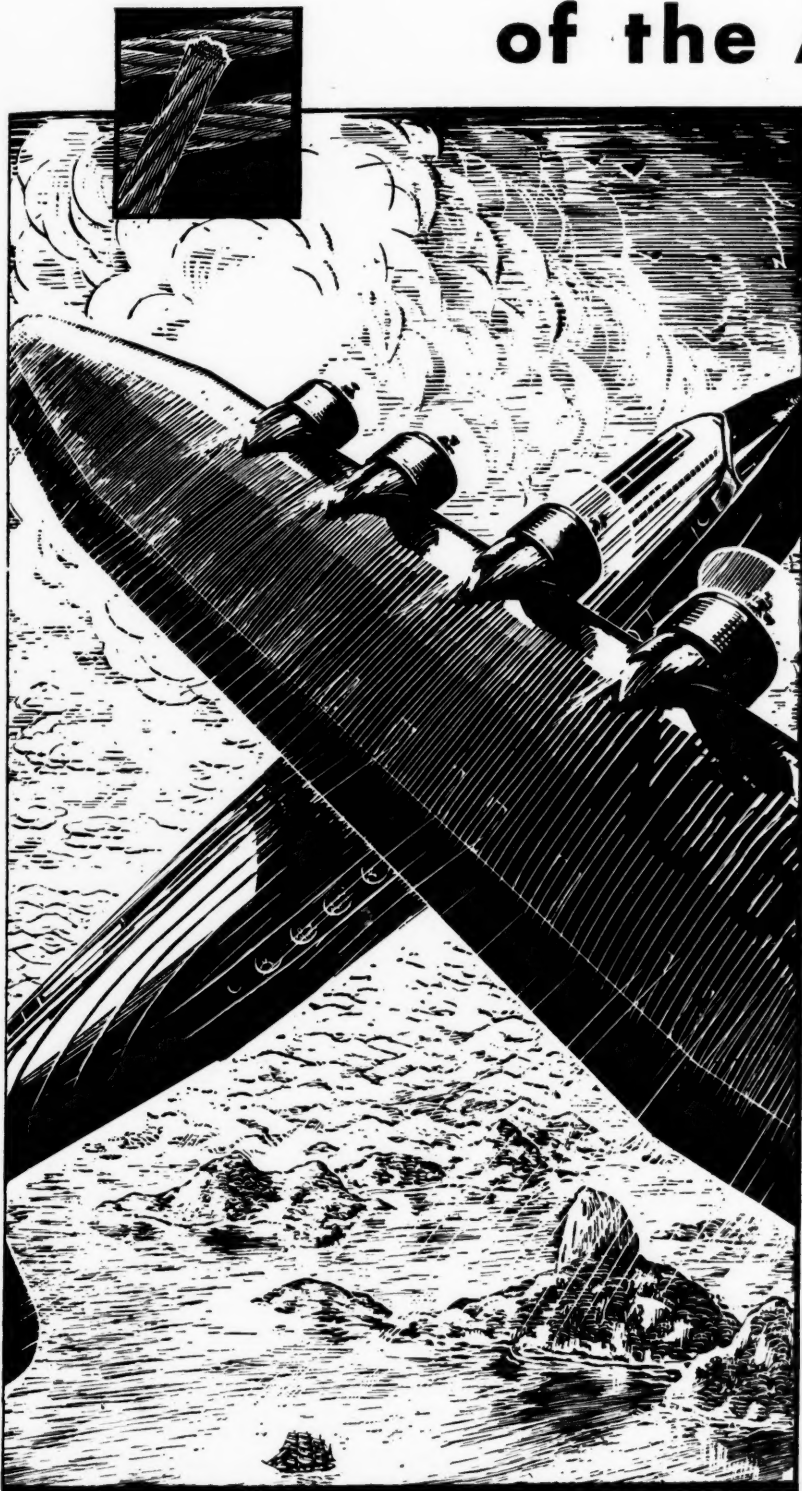
Lincoln—Proj. PWS (2197) 150-B, Price Construction Co., Huntington, W. Va., \$84,624;

Hancock—Proj. PWS (2197) 22-A, 181-A and 181-B, Edmonds & Co., Princeton, W. Va., \$11,288;

Kanawha—Road paving, Monty Brothers, Charleston, W. Va., \$17,772;

All bids rejected for projects in Ritchie County. (Low bidders.)

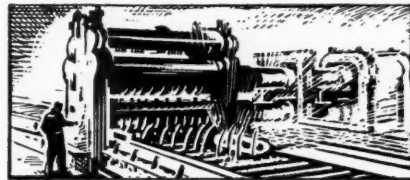
The Clipper King of the Air!



MUST HAVE CONTROL ROPE THAT IS UNFAILINGLY SAFE

Imagine a mammoth flying boat...carrying 32 passengers, a crew of six, over a ton of mail and express...and capable of flying 1250 miles without refueling. That's the "Brazilian Clipper"...holder of all ten world's records for transport seaplanes. It is one of three identical new Pan-American Airways' ships built by Sikorsky...the greatest of all trans-Atlantic type planes so far developed.

Designers selected Roebling Wire Rope for controls of all three ships. Almost a half mile of rope per ship.



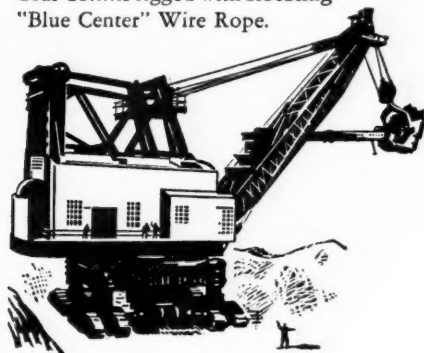
ROEBLING ROPE STEEL

It is acid open-hearth steel...made specifically for wire rope purposes...by Roebling's custom methods. Generally acknowledged to be the finest rope steel produced.

Roebling controls every process in making Roebling Wire Rope...from steel refining to finished product.

ONE OF THE WORLD'S LARGEST ELECTRIC SHOVELS...

an 18 cu. yd. "Marion", operated by Clemens Coal Co....is rigged with Roebling "Blue Center" Wire Rope.



TO MAKE CERTAIN that Roebling Wire Rope will give the user the highest obtainable degree of safe, economical service, Roebling has enlisted the aid of the finest and most complete research, testing and manufacturing facilities. Roebling Equipment for making acid open-hearth steel is an example. John A. Roebling's Sons Company, Trenton, N. J. Branches in Principal Cities.

ROEBLING

...THE PACEMAKER IN WIRE ROPE DEVELOPMENT

MARCH NINETEEN THIRTY-FIVE

IRON, STEEL AND METAL MARKET

THE Birmingham (Ala.) district, as the result of an accumulation of orders and the resumption of the Ensley rail mill of the Tennessee Coal, Iron & Railroad Co., at the close of last month increased its operating rate, contrary to the downward trend for the Nation's iron and steel industry. Birmingham thus became one of three bright spots on the Nation's iron and steel map, the other exceptions to the general trend being Detroit and Chicago.

At the close of February the operating rate had dropped to below the 50 per cent mark; scrap iron had declined, and weakness in some other lines had manifested itself. The production of motor cars is estimated to have gained during February, and the output is expected to be boosted to an even higher figure this month. Agricultural equipment makers have not curtailed heavy production schedules.

Better Demand Anticipated

Road and bridge building promise to consume large quantities of steel during 1935. The carriers, some of which lately have come into the market for rails and track accessories, while still delaying purchases of rolling stock can't much longer wisely defer buying for replacement.

An increase in residential construction activities—apparent throughout the country—will have a stimulating effect on the consumption of iron and steel, not alone for construction materials—such as metal lath, steel beams and columns, plumbing fixtures and heating plant units but for household accessories and equipment, notably kitchen, bath and utility cabinets; radiator covers; electric refrigerators; air-conditioning outfits, and similar products.

Indications are that the petroleum industry will consume steel products heavily this year. In recent weeks contracts awarded for filling stations and bulk storage plants have increased sharply. A number of important trunk pipe lines to transport oil and gas are projected. Gas distributing lines for towns and cities call for a substantial tonnage in the aggregate of cast iron pipe and fittings.

With numerous water and sewer projects recently let to contract and in the "planned stage" the demand for products of foundries and steel mills prom-

ises to mount. The jobs, running from small installations requiring only a few lengths of pipe, a pump and motor to elaborate systems complete with dam and reservoir, filtration and pumping plants, require the use of pipe of various kinds, fittings, motors, valves, storage tanks, and construction materials generally.

Resumption of the Ensley rail mill of the T. C. I. last month provided work for about 3500 men, many of whom have not been employed since last July except for short periods in September and December. With present orders running to about 50,000 tons it is believed that this insures several months of continuous operations.

The Birmingham district secured the following rail orders: Louisville & Nashville, 15,000 tons; Southern Pacific, 12,500 tons; St. Louis-San Francisco, 15,000 tons; Central of Georgia, 3,800 tons and others.

J. L. Perry, new president of the T. C. I., who hopes to add to diversification of products through an intensive research program designed to reveal new market possibilities, has been elected a director of the American Iron & Steel Institute, to succeed C. L. Wood, formerly a U. S. Steel Corporation vice president.

Exports Higher Since 1929

Exports of iron and steel products from the United States during the last year were the highest recorded for such items since 1929 totaling 2,832,000 tons, compared with 1,314,000 tons in 1933, an increase of 1,491,000 tons.

Foreign shipments of iron and steel scrap accounted for 65 per cent of the year's tonnage and amounted to 1,835,000 tons, compared with 773,000 tons in 1933, an increase of 1,062,000 tons. Sales abroad of tinplate ranked next to scrap tonnage, totaling 184,000 tons, compared with 95,000 tons in the preceding year, an increase of 89,000 tons.

Japan was the first-ranking market for American iron and steel products during 1934, her purchases totaling 1,249,000 tons, compared with 593,000 tons in 1933.

Steel production, higher in 1934 than in 1933, reflected the increasing importance of lighter steel products, according to an analysis of the industry's production records just announced by the

American Iron & Steel Institute. Production of 21,174,000 was up 10 per cent from the 1933 total of 19,243,000 tons. More than three-fifths of this increase came from expanding demand for sheets, strip, wire and other light products for which production aggregated 9,018,000 tons last year, approximately 15 per cent greater than the 7,836,000 tons produced in 1933.

Largest consumers of steel last year were the automobile, railroad, building materials and equipment and container industries, ranking in that order. Manufacturers of house furnishings, refrigerators, furniture, stoves, automobiles, containers, and farming equipment used over three-fourths of all tin plate, 66 per cent of the sheets and strip and 32 per cent of the wire.

As an indication of what consumption of light steel products means in the aggregate, the Institute points out that more than 600,000 tons of steel have been used in this country for air-conditioning equipment, and that a large future consumption for this purpose is in prospect. Sheet steel is being utilized for ducts of central station installations and for the cabinets of unit types.

Annual capacity for the production of steel ingots in this country as of December 31, 1934, is reported by the Institute at 69,734,000 gross tons. No new capacity for the production of open hearth or Bessemer ingots was created in 1934, in accord with provisions of the Steel Code.

Steel Plants Modernizing

Steel works modernization gained impetus during the last month when the United States Steel Corporation authorized subsidiary concerns to spend \$47,000,000 for improvements, alterations and new equipment, and the Bethlehem Steel Corporation awarded a contract for a continuous strip-sheet mill at its Buffalo (N. Y.) plant where the entire outlay will approximate \$20,000,000. The Republic Steel Corporation may construct a continuous strip-sheet mill at Corrigan, Ohio. Jones & Laughlin will shortly award a contract for a 48-inch blooming mill, a major item in a \$4,000,000 improvement program. Youngstown Sheet & Tube has under way a \$10,000,000 expansion program. National Steel Corp. will spend \$12,000,000 at its Great Lakes Division, Escorse, Mich.

Contractor's Men Save Time Working with Beth-Cu-Loy

Beth-Cu-Loy Sheets have toughness and easy-forming qualities, while copper content imparts superior rust-resistance

Better than anyone, the sheet-metal contractor knows the difference that good working qualities can make in a sheet, if it's to be used in duct work or any other application that involves forming.

For example, Henry Norair, treasurer of the Sheet Metal Construction Company, Irvington, N. J., says, "Wherever moisture or dampness is present we like to see Beth-Cu-Loy specified because that means a low-cost sheet that will resist rust with the best of them, and a sheet that has, in addition, the good working qualities so important to the sheet-metal contractor. It's the combination of both these qualities that recommends Beth-Cu-Loy to us. We know from experience that our men working with Beth-Cu-Loy make faster time and are likely to turn out a better job than they might with a sheet lending itself less readily to bending operations."

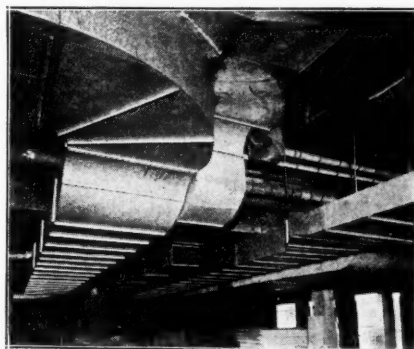
Beth-Cu-Loy Sheets are made of copper-bearing steel, which stands at the head of the list of commercial grades of iron and steel in powers of rust-resistance. But that isn't all. Beth-Cu-Loy Sheets are exceptionally easy-working. Nothing of the ductility and toughness which are characteristics



Henry Norair

of open-hearth steel—tapped at the stage in the melt at which it's the best sheet steel—has been sacrificed in making Beth-Cu-Loy.

The rust-resistance in Beth-Cu-Loy Sheets is *extra* value, secured at no sacrifice of the quality of the steel, by adding just the right percentage of pure ingot copper



Beth-Cu-Loy Duct Work in Newark Station

at the open hearth. Beth-Cu-Loy (copper-bearing) Sheets are available at important centers of distribution.



Newark, N. J., Station, Pennsylvania Railroad. Beth-Cu-Loy Sheets used in ventilating system, installed by Sheet Metal Construction Company.

OTHER RECENT SHEET METAL CONSTRUCTION COMPANY JOBS INCLUDE:

- Newark Post Office (ventilating system).
- Archives Building, Washington, D. C. (ventilating system).
- Miller and Rhoads, department store, Richmond, Va. (air-conditioning system).

In all three of the above jobs Bethlehem Sheets were used.

BETHLEHEM STEEL COMPANY
BETHLEHEM, PA.

District Offices: Atlanta, Baltimore, Boston, Bridgeport, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Detroit, Houston, Indianapolis, Kansas City, Milwaukee, New York, Philadelphia, Pittsburgh, St. Louis, St. Paul, Washington, Wilkes-Barre, York. **Pacific Coast Distributor:** Pacific Coast Steel Corporation, San Francisco, Seattle, Los Angeles, Portland, Honolulu. **Export Distributor:** Bethlehem Steel Export Corporation, New York.

GOOD ROADS AND MOTOR TRANSPORT

Virginia Plans \$4,556,000 Primary Road Construction

The Virginia State Highway Department has been authorized by Governor Peery to incur whatever deficit is necessary in order to match a Federal-aid allotment of \$2,278,000 for roads, according to Henry G. Shirley, state highway commissioner. This action assures a state expenditure of \$4,556,000 during the next fiscal year for the construction of primary roads in Virginia and means the employment of thousands of men. These expenditures will be in addition to the expenditure of about \$3,000,000 on convict road construction, in which the Federal government takes no part.

It is anticipated that the Virginia Highway Department will finish the current fiscal year with a deficit of \$1,000,000, and this will have to be carried over. For the fiscal year 1934-35, the Department estimated motor vehicle revenues would total \$16,500,000, and that the deficit at the end of the fiscal year would be \$2,669,378, but because of gains in gasoline tax revenue indications now are that motor vehicle revenues will total \$18,000,000. Revenues for the calendar year of 1934 totaled \$18,173,528.

There were 40,000 more automobiles licensed in Virginia in 1934 than in 1933, and the division of motor vehicles expects an increase in 1935 of at least 20,000. While the increased number of cars does not make up the loss in license revenue caused by a 40 per cent cut in license fees, officials point out that it does tremendously stimulate gas tax revenues.

Panama Plans Road Construction

According to a report to the United States Department of Commerce from Commercial Attache R. G. Glover, Panama plans to expend approximately \$1,000,000 for the construction of roads during 1935 and 1936. During 1935, it is expected that \$400,000 will be made available for opening rural roads in sections more or less isolated. The sum of \$200,000 is earmarked for the completion of the Panama City-David highway, which has been completed with the exception of a short section. Before the next rainy season begins around April 15 to May 1, the Highway Commission expects to have this section finished,

and in the current year this road will be extended from David to the Costa Rican border, thereby completing Panama's portion of the Pan American highway from Panama City to Laredo, Texas. The highway budget for 1935-1936 calls for the expenditure of \$800,000, it is pointed out, whereas the construction program includes an expenditure of approximately \$1,000,000. Additional funds of \$200,000, the report states, will be obtained from the automobile tax and from a probable surplus of the gasoline tax income over present estimates.

Aerial Mapping in Road Building

Because the State of Washington covers such a wide area, the State Highway Department took 3567 aerial photographs during the past biennium in planning the location of highways. Aerial mapping covered more than 2000 square miles of territory and embraced the construction of highway projects totaling 853 miles.

Large Capacity Trail Cars

A line of trail cars in 8 to 25-ton sizes for handling coal, ore, rock, dirt and other heavy bulk materials has been announced by the Austin-Western Road Machinery Company, Aurora, Ill. These cars mounted, on rubber tires, are similar in engineering design to those employed by recognized builders of railroad dump cars. Equipped with bottom or side dump doors that operate by air, hydraulic or manual controls, A-W trail cars come in three standard body designs, including special, built-to-order construction.

According to the manufacturers, these trail cars will haul more than double the load that a truck tractor can carry on its own chassis. Features of construction include a full universal, gra-

vity-cushioned fifth wheel for rough surface travel; short turning radius; generous ground clearance for easy dumping; low overall height; dumping control from cab; automatic safety dumping devices, etc. An illustrated booklet describes all models.

Growing Opposition To Federal Gasoline Tax

To a growing list of trade association members who have filed protests with Senators and Representatives in Congress against re-enactment of the Federal gasoline tax, members of the American Petroleum Institute, New York City, have been added. This levy, widely opposed by State governments, is due to expire June 30, 1935.

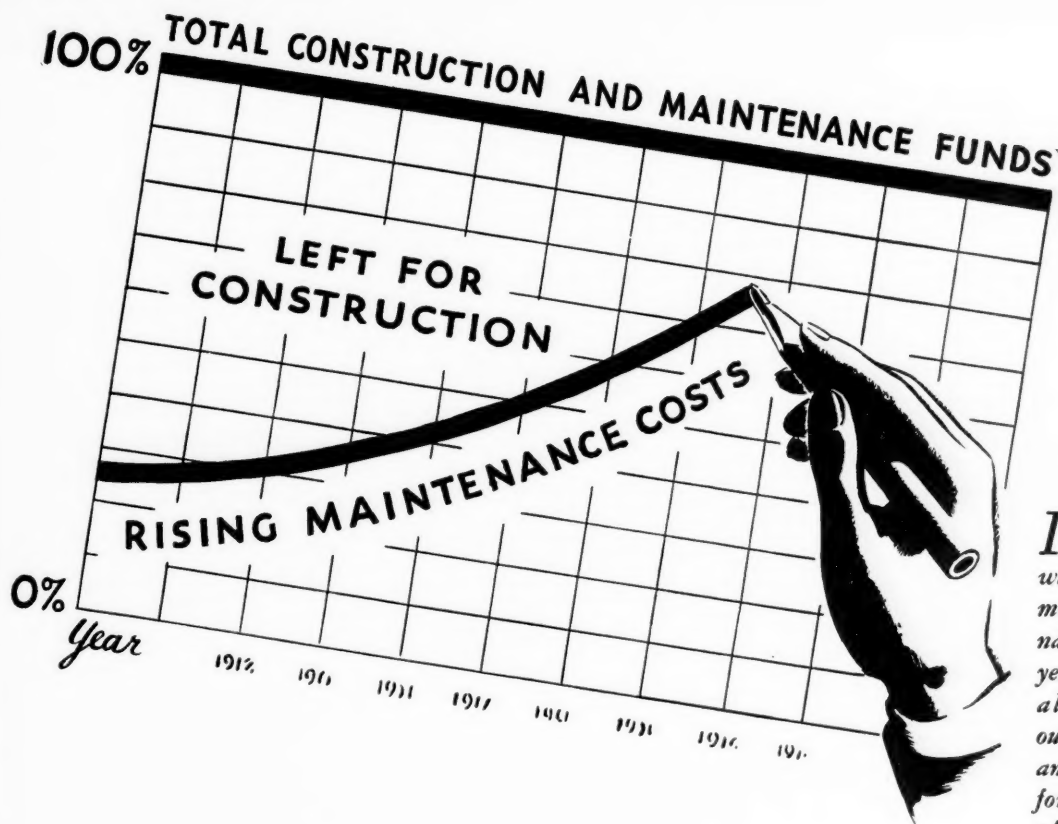
Organizations which have filed protests up to this time include:

American Trucking Association, American Farm Bureau Federation, Farmers' National Union, Farmers' Educational and Cooperative Union of America, Independent Petroleum Association, National Association of Petroleum Retailers, Chamber of Commerce of the United States, American Automobile Association, Automobile Manufacturers Association, American Motorist Association, National Petroleum Association, Motor Truck Association of America, National Dairy Union, National Highway Users Conference, American Association of Creamery Butter Manufacturers, National Grange, American Petroleum Industries Committee, Motor and Equipment Manufacturers Association, National Association of Motor Bus Operators, National Rural Letter Carriers' Association, and National Automobile Dealers Association.

Fourteen State legislatures have adopted memorials requesting Congress to eliminate the tax, according to the American Petroleum Industries Committee, while others are considering similar action.

New A-W Trail Car





Inferior, temporary highway surfaces clamor for more and more maintenance and reconstruction year after year. Eventually, any new roads are out of the question. All the annual road money goes for upkeep! Then, "the end of the road" has been reached, both literally and figuratively.

Where these lines meet is "THE END OF THE ROAD"

Accurately designed to the traffic load, enduring concrete actually costs less than any other pavement of equal load carrying capacity. Every mile of concrete laid saves maintenance money for years to come . . . preserves money for new construction.

Maintenance *must* be a primary consideration whether it is for a state road, country road, city street or an industrial drive

around a textile mill, factory, mine or freight yard. And consideration of maintenance almost invariably leads to the choice of concrete!

It is true in road construction, as in other things, that the best costs less in the long run.

CONCRETE

Concrete is the standard by which all roads are judged . . . insuring maximum safety, comfort and economy for motorists. Non-skid in the rain . . . visible at night . . . easy on tires, gas, oil and repairs.

PORTLAND CEMENT ASSOCIATION

Room 123, 33 W. Grand Avenue, Chicago, Ill.

Please send me without obligation your new publication, "Road Maintenance Costs as Told by Available State Highway Records."

Name.....

Street.....

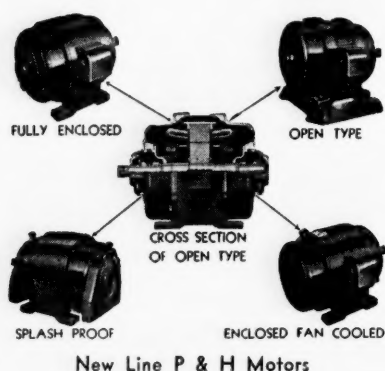
City.....State.....

EQUIPMENT

NEW AND IMPROVED

Harnischfeger Convertible Motors

Offering all standard frequencies for service ranging from 110 to 220 volts, a new line of convertible squirrel cage and slip ring induction motors is announced by the Harnischfeger Corporation, Milwaukee, Wis. These motors are built in accordance with standards adopted by the National Electrical Manufacturers Association and their outstanding feature is ready convertibility from open type to fan-cooled, splash-proof or totally enclosed construction, accomplished through the design of the frame, end heads and bearings to permit inter-



changeability in the four types mentioned above of single or multi-speed units. The motors range from ½ H. P., 600 R. P. M., to 125 H. P., 3600 R. P. M., and are adaptable to various service requirements.

Rubber Parts Make Trackless Trolley "Noiseless"

In line with efforts to eliminate noise, trolleys using balloon tires instead of steel wheels and tracks, have gained favorable attention. Further freedom from noise and vibration is said to have been attained by the use of new mechanical rubber products patented by Firestone Tire and Rubber Company, of Akron, Ohio. One device is the "biscuit type" motor support cushion—a biscuit-shaped rubber cushion vulcanized to brass-plated metal. In new trackless trolleys being manufactured by Twin Coach Company, Kent, Ohio, the compressor unit is suspended by these mountings. The patented "vibration dampener"—a combination of rubber and metal units chemically vulcanized together—dissipates shocks while providing valuable electrical insulation. Fenders of the new trackless trolleys are also made of Firestone rubber.

Gas-Operated Air Conditioner

Marking another use of gas fuel, the Industrial Gas Research Committee of the American Gas Association, New York city, has announced the introduction of a gas-operated summer air conditioner for homes, commercial structures and industrial plants, which may claim as much public interest as the development of gas-refrigeration.

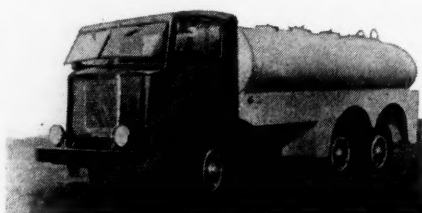
The new gas-operated air conditioner is a Silica Gel apparatus. The operation of the machine is entirely automatic and is controlled by weather conditions and individual preference for comfortable temperatures. Commercial production of the unit in several sizes is now under way by The Bryant Heater Company, Cleveland, Ohio, and sales engineering schools will be started immediately in several cities to promote installations. Among the first installations in dwellings were in Pelham, N. Y., Chicago, Dallas, Baltimore and Philadelphia. Several commercial installations have been made, one being in the office building of the Dallas Gas Company. The largest installation is in the new central public library building in Baltimore.

Entrance of the gas industry in the air conditioning field is the result of six years of research and experimental testing promoted by the entire gas industry and directed by the Industrial Gas Research Committee of the American Gas Association.

Short-Length Truck

Unique in appearance as well in design, a new short-length truck for inter-city use has been announced by The Four Wheel Drive Auto Company, of Clintonville, Wis., a pioneer in the construction of trucks driven by power on all four wheels. The new unit is technically listed as Model X6 Special, but is designated by operators as "The Camel Back". It is designed particularly for milk industries, petroleum transportation, and for inter-city hauling where

Model X Four-Wheel-Drive Truck

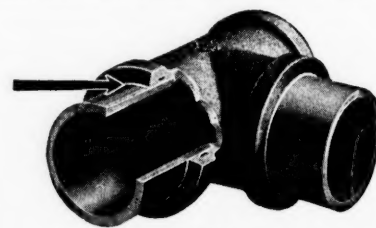


high speed and quick manipulation of heavy and bulky loads are desired. The new truck is driven by a 125-horsepower engine at 2500 r. p. m., torque 33 foot-pounds. Any type of body desired is furnished by the FWD Company—tank bodies, racks, platforms, stake bodies, utility bodies, etc.

President Walter A. Olen, reports that the total amount of sales of FWD trucks in 1934 increased 91 per cent over 1933 sales.

Walseal Threadless Bronze Fittings

Walseal Threadless Bronze Fittings, for use with standard iron-pipe-size and extra heavy brass and copper pipe are now being supplied by Walworth Company, New York City. Each opening of the fitting contains a ring of bronze alloy known as Sil-Fos. Pipe is easily assembled by slipping the end into the fitting, heating the pipe so that the alloy melts, and then applying the flame to the fit-



Application of Sil-Fos Bronzing Alloy Ring

ting until the alloy seal appears as a white ring around the pipe. The result is a joint that is vibrationless, resists corrosion and will not creep. Walseal Fittings are available in sizes ¼ inch to 8 inches and Walseal Flanges 1¼ inches to 12 inches.

G-E High Intensity Mercury Vapor Lamp

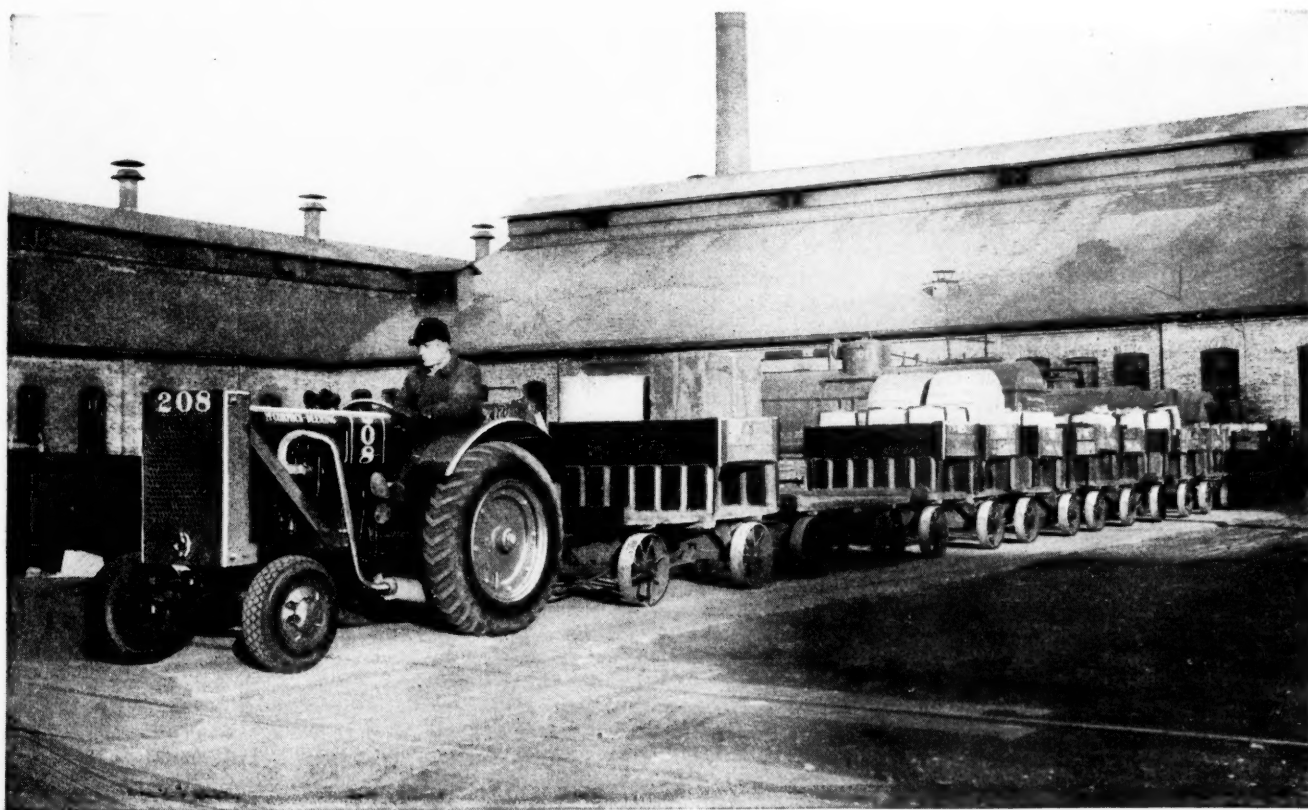
The General Electric Lamp Company of Hoboken, N. J., has developed a High Intensity Mercury Vapor Lamp particularly suitable for high bay lighting. It is a new approach to an industrial white light which is restful to the eye and enables quick visual response, while promoting the continued use of the eyes without fatigue. It is made with a Mogul screw base for vertical mounting, has an overall length of 13 inches, and is designed for operation on 110 volt and 220 volt, 60 cycle circuits. From a technical standpoint the High Intensity Light is a combination of blue light and yellow-green and of high efficiency.

You Can Expect Exceptional Economy from the McCormick-Deering I-12

● The 4-cylinder, valve-in-head engine, down-draft carburetion, air cleaner, fuel strainer, 25 ball and roller bearings, and other features of the McCormick-Deering I-12 combine to provide the unusual economy for which this industrial tractor is famous. On dozens of jobs in factory, mill, warehouse, dock, railroad, public utility, and other service, the I-12 works continuously day in and day out on a

gallon of gasoline an hour. Many owners report they are maintaining regular schedules on only 6 to 8 gallons a day. You will find it to your advantage to make a thorough investigation of the I-12. Replace costly, obsolete power with this modern, efficient tractor. The nearest branch, or McCormick-Deering distributor or dealer, will give you prices, specifications, etc., on the McCormick-Deering I-12 Tractor.

INTERNATIONAL HARVESTER COMPANY
606 So. Michigan Ave. OF AMERICA
(INCORPORATED) Chicago, Illinois



MCCORMICK-DEERING INDUSTRIAL POWER

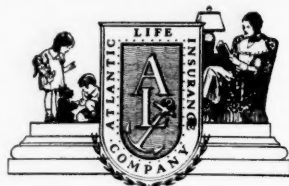
ATLANTIC LIFE INSURANCE COMPANY

35th Annual Statement

December 31, 1934

RICHMOND : : VIRGINIA

ANGUS O. SWINK, President



ASSETS

Cash on Hand and in Banks and Trust Companies	(3.01%)	\$746,875.85
(Includes \$34,062.98 in closed banks, after deduction for estimated loss.)		
Bonds:		
United States Government	(7.56%)	1,877,566.38
State and Municipal	(2.97%)	738,651.55
Industrial and Miscellaneous	(1.24%)	307,360.50
Public Utility	(1.71%)	424,305.49
Railroad	(1.44%)	357,937.29
Total Bonds (14.92%)		\$3,705,821.21
Bonds carried at amortized value excepting two issues of \$25,000 each carried at market values.		
Farm Loans	(1.34%)	333,158.52
City Loans	(26.30%)	6,530,140.03
First mortgage loans have always been the primary asset of American life insurance companies: farms and homes are the greatest possession of our people and will continue to be such. Our average loan is \$3,597.12, and the average ratio of loans to appraisals is 32 3/4%.		
Policy Loans and Premium Notes	(31.92%)	7,926,355.62
During the past year many policyholders have taken advantage of the improvement in conditions to repay their loans in whole or in part. To others who have been compelled to borrow on their policies we would strongly urge that they repay their loans as soon as possible, thus restoring their contracts to par value. Every dollar paid off on a loan is a 6% investment for the policyholder.		
Real Estate	(16.44%)	4,081,695.98
In our real estate account is the amount of \$400,000, the value of our present home office building, and \$205,685, the value of the property acquired as the future home of Atlantic Life. We own no other large single properties, nor do we hold mortgage liens on such. The balance of \$3,476,010.98 in this item, averaging \$5,242.85 per property, had an appraisal value of \$7,905,260.73.		
Real Estate Sold Under Sale Contract	(0.72%)	179,136.00
Title to these properties will be passed to the purchasers upon completion of sufficient payments to enable them to have a substantial equity.		
Premiums Due and Deferred	(2.35%)	582,562.15
Premiums or instalments thereof (due, or earned but not due) not exceeding in each case the reserve on the policy included as a liability in legal reserve.		
Interest Due and Accrued, and Other Assets	(3.00%)	746,169.94
Total Assets		\$24,831,915.30

LIABILITIES

Legal Reserve on Policies	\$21,359,368.96
Verified and approved by the Superintendent of Insurance of Virginia. This is the amount which, with future premiums and interest, will enable the company to meet all claims of policyholders. Our reserves are set up as required by law, on a sound and conservative basis, making safe and ample provision for what the future has in store.	
Death Claims Due and Unpaid	None
Claims are paid promptly upon receipt of due proofs.	
Claims Reported but Proofs of Loss Not Received	146,386.74
Present Value of Death, Disability, and Other Claims Payable in Instalments	1,061,639.47
The amount which, with future interest, is required to pay future income to policyholders and beneficiaries.	
Premiums and Interest Paid in Advance	252,982.01
Reserve for Taxes Payable in 1935	55,000.00
Policyholders' Dividend Funds	384,397.40
Miscellaneous Liabilities	36,157.13
Reserve for Building Depreciation	275,000.00
Contingency Reserve	100,000.00
Capital	500,000.00
Surplus	660,983.59
Total Liabilities	\$24,831,915.30

LIQUIDITY plus DIVERSIFICATION equals STRENGTH

FINANCIAL NEWS

Attacking Holding Companies

The activity of the Administration against utility holding companies apparently takes no account of what may be good holding companies or bad holding companies, but is based upon the idea that all holding companies should be abolished. As a matter of fact, the theorists of the New Deal seem to regard, in their wild efforts to "reform" everything and everybody, bigness in business as a crime. Those who have saved anything and laid by a surplus for the future through hard work and foresight are the objects of particular scorn.

One of the defenders of a bill introduced at the present session declared that surpluses should be abolished and the sums that wisdom of the past dictated should be laid aside for bad times, should be spent immediately for wages.

The Gold Case Decision

The U. S. Supreme Court decision in the gold cases followed by ex-President Hoover's interview in which he urged the immediate return to the gold standard by making the present dollar value of 59 cents payable in gold on demand, presents what will likely be a major political issue in the next presidential campaign. Commentators agree, now that there has been time to weigh both the majority and minority opinions of the court, that there can be small comfort found by the administration in what first was interpreted as a victory. It is thought by some that the decision is bound to call a halt in plans for further devaluation. This should give encouragement to business, because fear of the stability of the dollar and its future value has worked as a deterrent to returning confidence. Investors will not invest until they have some reasonable assurance how they are going to be paid off.

Reserve Bank Industrial Loans

The Federal Reserve Bank of Richmond had loaned, up to the middle of February, nearly \$7,000,000 to provide additional working capital for industries. It is reported this is approximately 70 per cent of the total this bank may lend under the law.

Seventy-six loans aggregating nearly \$5,000,000, have been approved unconditionally and additional applications aggregating \$1,886,000 have been approved conditionally.

Total applications up to the time named aggregated more than \$13,000,000 and were 346 in number.

Securities Owned by Government

The National Industrial Conference Board, states that the Federal Government is the largest owner of securities in the world, the total aggregating \$16,955,000,000. The largest part of this is in foreign securities, which aggregate more than \$12,000,000,000. The collection of any considerable part of this amount, as the Board points out doubtless depends on the attitude of the U. S. toward revision of the debt agreement.

Other large holdings are nearly \$3,000,000,000 net advanced to the Reconstruction Finance Corporation on its notes. This is after deducting purchases by the RFC of capital stock of governmental corporations. In other governmental corporations and agencies in which the Federal government owns equities there is invested \$1,207,000,000. The Board states:

"Because of the extremely diverse character of the securities
(Continued on page 46)



In a commercial and industrial city having the advantages of Richmond, you have the right to expect banking facilities of comparable scope. It is the constant aim of First and Merchants to provide a type of banking service that is just a little better than is expected or required.

FIRST AND MERCHANTS National Bank of Richmond

John M. Miller, Jr., President

CAPITAL AND SURPLUS FIVE MILLION DOLLARS

THE OSCAR T. SMITH & SON CO.

Manufacturing

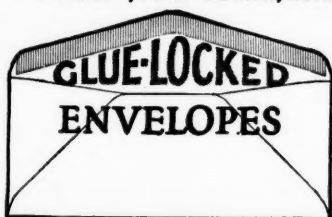
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Sales Offices, Washington, D. C., Philadelphia, Pa., Newark, N. J.

Business Is Going Ahead

As stated previously in this space, the demand for goods is piling up and the next movement of enterprise will be forward. This bank is prepared to co-operate with sound business in every proper way.

Can we be of service?

•

Baltimore Commercial Bank

GWYNN CROWTHER, President

BALTIMORE, MARYLAND

Member Federal Reserve System

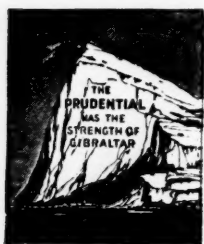
What can we do for his family?

This question never arises when an
employee dies, if there is

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A worth-while sum promptly deliv-
ered conveys a practical message of
sympathy and understanding.

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INTERESTED EMPLOYER**



**THE PRUDENTIAL
INSURANCE COMPANY OF AMERICA**

**EDWARD D. DUFFIELD, President
HOME OFFICE, NEWARK, N. J.**

Securities Owned by Government

(Continued from page 44)

owned by the government it is impossible to estimate their worth as realizable assets. Any appraisal of the foreign obligations would at best be arbitrary.

"The extent to which many of the other obligations will eventually be liquidated will depend largely on the degree and duration of economic recovery. In some cases, such as the intermediate credit banks, the investment of the government is in effect a continuing one. There is little reason, consequently, to regard the liquidation of the amount involved as a potential source of funds that might be used for debt retirement."

Baby Bonds

Comment has been made that the terms of the offering of so-called "baby" bonds give little inducement to those who have small savings. The interest over a period of 10 years will average 2.9 per cent, but it will be necessary to wait for the expiration date to realize the full amount.

In a country as rich as this, capital and savings accumulate very rapidly. There is no doubt that a large total is being held back in the hands of those of moderate means until the investment market offers assurance of profit. Very probably, therefore, the sale of these bonds, which are to be offered through Post Offices, will be successful. The wider the spread of their ownership, the better it will be for the country, as in this way greater interest will be created in affairs of government, its receipts and expenditures.

A publicity campaign for the sale it is understood, will be conducted and this probably will include motion pictures, newspapers and radio.

Comment on the program in the Birmingham News says: "on the whole there is some question as to whether the government ought to go too far in enlisting the forces of propaganda in its efforts to divert these savings into the channel of Federal expenditures. Moderation suggests itself as a good watchword for this new cause."

Railroad Readjustments

It is predicted that the lessened earnings of railroads, due to rising costs and lack of material improvement in traffic, will necessitate a large number of railroad readjustments before the year is out. The Journal of Commerce thinks it possible that probably 100,000 miles of railroad, including 40,000 already in bankruptcy, may have to seek voluntary or involuntary readjustment before the financial structure of the railroads can be stabilized on the present volume of business. The discouraging struggle which railroad management has experienced during the past four years explains the willingness of some executives and directors to consider voluntary reorganization more to be preferred than the attempt to borrow additional funds.

Large Industrial Operation

The Pennsylvania Railroad announces that under the electrification and improvement program financed by the PWA, the sum of \$56,910,000 was expended during 1934 for wages, and equipment purchased. \$8,300,000 of this was for electric locomotives and \$12,600,000 for materials and supplies used in constructing 7,000 freight cars; besides \$3,700,000 for 100,000 tons of new steel rail.

Under the contract between the government and the railroad company, each individual order of purchase was reported. This involved approximately 25,000 separate items ranging from two purchases of one cent and four cents, to single orders of \$5,000,000.

National Bank Deposits

National bank deposits increased in 1934 more than \$4,000,000,000.

The Social Value of **INDUSTRIAL POWER**

THE public utility companies in the Commonwealth and Southern group have, throughout their histories, created and fostered social values and economic benefits through constructive electric development.

No new philosophy this, no overnight development, but an orderly policy seasoned by experienced management—planned, tested, engineered for soundness, stability, permanence.

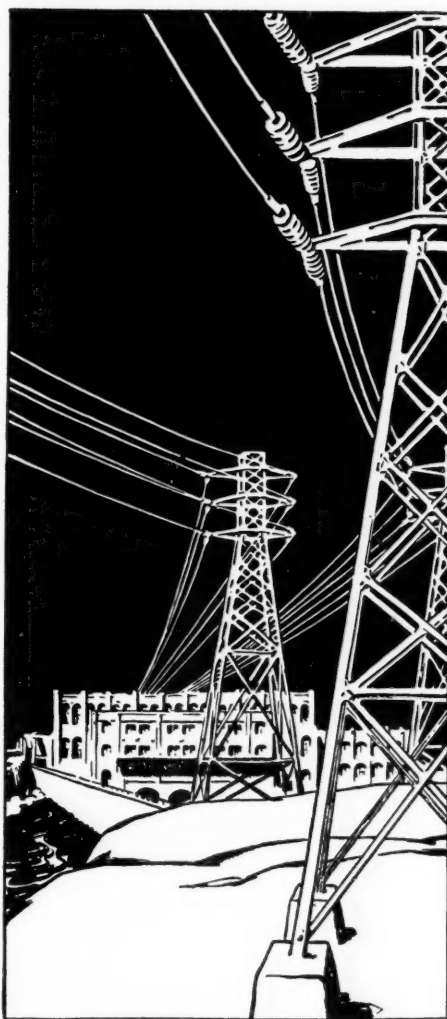
These companies have always recognized that an electrical program is one of many ramifications. Among these is the development of a territory's industrial forces, either through co-operating with existing industries or by encouraging the location of new industries. Naturally, such activities lead to creating a market for industrial power. But this constructive work goes far beyond the industrial phase.

Industrial development of this nature connotes a vigorous, healthy community—increased employment—growing trade—improved standards of living. In the advancement of these social and economic values, public utilities have established a record of long standing.

As one of the leaders in industrial co-operation, the Commonwealth and Southern group of companies has maintained a policy which seeks to multiply the earning power of the people by the natural process of creating wealth through the development of business built on sound, profitable industrial activity.

THE COMMONWEALTH & SOUTHERN CORPORATION

OPERATING COMPANIES IN MICHIGAN—OHIO—ILLINOIS—INDIANA—GEORGIA
PENNSYLVANIA—TENNESSEE—SO. CAROLINA—MISSISSIPPI—FLORIDA—ALABAMA



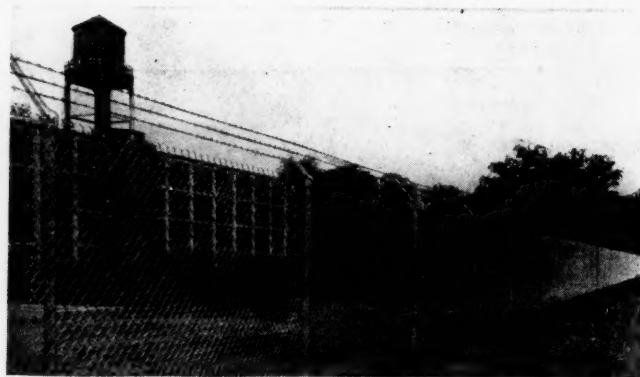
TO MANUFACTURERS

If you are interested in market possibilities, relocation to improve operating or cost conditions, branch establishment or related activities—the facilities of our organization are available to you for studies in this connection, as applied to the territory served by Commonwealth & Southern properties. These services are at your disposal without charge. All inquiries are confidential. Address Industrial Development Department, 20 Pine St., New York.

Now

BETHANIZED WIRE

ADDS YEARS TO THE LIFE OF CHAIN LINK FENCE



ANCHOR Fences

NOW MADE FROM NEW "ZINC WIRE WITH STEEL CORE"

THE purer the zinc coating—the more uniform it is on the wire—the longer the life of your chain link fence. Now comes Bethanizing—an entirely new process—applying to the steel core a zinc coating which is absolutely uniform, perfectly smooth, extremely ductile and *chemically pure*! Result: Chain Link Fence which stands up years longer—even in atmospheres heavy with salt, soot and other corroding agents.

Plant owners, managers, and maintenance engineers will appreciate the extra years of service and improved appearance which Bethanized Wire gives to Anchor Chain Link Fence. The Bethanized coating of *pure* zinc can be made as heavy as you wish—with extra heavy coatings where needed for extra corrosive atmospheres.

Add years to the life of your fence with Anchor Bethanized chain link fabric. Get the facts! Anchor Fences of Bethanized Wire are made in many different types and heights to meet every industrial requirement. They are readily available to you through our sales and erecting service offices—located in every important industrial center in the South. Mail the coupon for booklet giving full information—now!

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6622 Eastern Avenue, Baltimore, Md.

Please send me your free book about Anchor Fences of Bethanized Wire for Industrial property.

NAME

ADDRESS

ARE YOU AWARE THAT

ABOUT 48 PER CENT of the country's bituminous coal is mined in the Southern States and more than one-fifth of the total production is consumed by the railroads. One-fifth of the freight revenue of the railroads is derived from carrying bituminous coal. The railroads receive on an average more per ton for transporting coal than the operators receive for producing it.

WORLD CONSUMPTION of cotton this season probably will be 24,250,000 bales. While normally the United States supplied 55 to 60 per cent of the world's consumption, indications are that consumption of American cotton this year will be 48 per cent as against 52 per cent foreign. Not only is the United States losing foreign markets but domestic consumption declined in 1934. Increased cotton prices from Government and AAA regulations, the processing tax and higher cost of manufacturing due to NRA which increased textile wages between 70 and 100 per cent, and cut operating time, have been responsible for the shrinkage in the American cotton trade.

PRODUCTION OF ELECTRICITY by Southern electric light and power plants so far this year has shown a gain each week over the corresponding week of 1934. The gain for the week of February 16 was 7.1; February 9, 7.9 per cent; February 2, 8.9 per cent; January 26, 10.3 per cent; January 19, 11 per cent; January 12, 9.4 per cent, and January 5, 15.9 per cent.

THE ELECTRIC POWER industry in 1934 sold 70,781,780,000 kilowatt-hours of electric energy to 24,565,945 consumers, a gain of 7.6 per cent in consumption and 2.1 per cent in the number of customers over 1933. Total revenue from light and power sales in 1934 was \$1,837,046,000, a gain of 3.6 per cent over 1933.

PAPER CONSUMPTION in the United States is about 12,250,000 tons annually. Of this total, newsprint consumption is about 3,500,000 tons, book paper 1,350,000 tons, paper board stock 4,000,000 tons, wrapping paper 1,550,000 tons, fine paper 550,000 tons and all other kinds about 1,250,000 tons. The Southern States now supply about 60 per cent of the kraft paper manufactured in the United States, and with the proper development of its pine pulpwood resources it can supply newsprint requirements of the nation and make us independent of pulp and paper imports valued at about \$170,000,000 a year.

MINE RESOURCES of the South include over 40 primary minerals in substantial quantity and widely distributed which are supplying a large percentage of the country's mineral requirements. It is upon these raw materials and the products of farm and forest that the South is so rapidly developing a great chemical industry.

PORT HOUSTON, TEXAS, set a new all time tonnage record of 1,835,679 tons in January. Petroleum and petroleum products showed the greatest increase of all commodities, while cotton exports declined.

THERE are more than 17,000,000 farmers in the South. They operate 375,000,000 acres of which 110,000,000 acres are in field and truck crops.

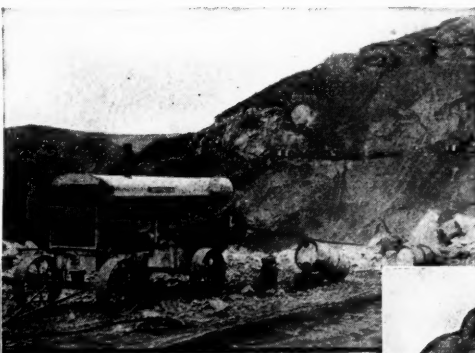
(Continued on page 50)

WORTHINGTON ROCK MASTER Performs at Grand Coulee

IN THE HARDEST BLUE GRANITE ever encountered by old time "hard rock" men...the Rock Master averaged 10 feet of hole per hour against a 2-foot maximum by ordinary drills.

... and in tough "tombstone" granite, 15 to 18 feet of hole per hour.

The Rock Master not only drills faster, but its easy portability saves valuable moving time.



"This blue granite is the hardest rock I ever struck in a lifetime of drilling" said the drill superintendent on the job. It was in this material that the Rock Master averaged 10 feet of hole per hour.



THIS Worthington Portable Compressor supplied the air for the Rock Master...and a couple of the conventional hand drills at the same time... AND KEPT THEM GOING.



Get the details before you tackle your next rock job



WORTHINGTON PUMP AND MACHINERY CORPORATION
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A-3516

Earnings on \$300,000,000 Investment Taken from Security Holders

INCREASES in taxes, and reductions in rates which afford relatively unimportant savings for an individual customer, are taking away from investors in the Associated System enough to pay the annual interest on more than \$300,000,000 worth of securities

at the rate of 5 per cent.

During the recent depression the loss of earnings by utilities, and the shrinkage in value of utility securities have not been due primarily to the failure of earnings to withstand the effects of depression, but principally to—

1. Actual and threatened governmental competition.
2. Attacks by public officials and agencies, which have uniformly been followed by sharp declines in the market price of utility securities.
3. Reduction in earnings through action of governmental agencies, such as excessive increases in taxes and unreasonable decreases in rates.

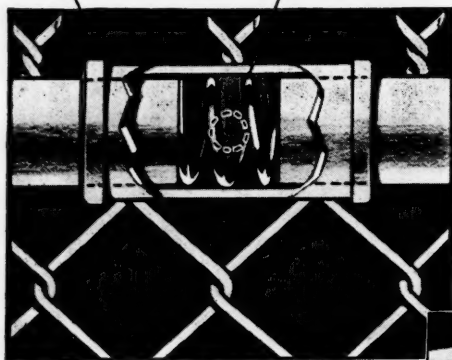
The result of all these policies has been to threaten the savings of millions of thrifty, small investors. Present improvement in the revenues of utilities has partially off-

set these adverse conditions. But this improvement should not lull investors into inactivity. They must organize to combat in every reasonable way the injustice that is being done to them.



ASSOCIATED GAS & ELECTRIC SYSTEM

why a Cyclone fence stays straight



The Ordinary Way
Rigid coupling cannot allow for expansion and contraction of rails. Posts are displaced, rails broken or bent.

The Cyclone Way A sturdy expansion coupling with enclosed heavy spring compensates for expansion and contraction. No breakage or bending. Fence stays straight.



● Top rail actually pulled apart as the metal contracts with the cold—top rail with "waves" in it caused as the metal expands with the heat! Huge repair bills and an unsightly fence. Guard against its happening to your fence. Demand "Cyclone" made only by the Cyclone Fence Company, for Cyclone has engineered a special feature which protects this fence from the effects of changing temperatures.

This is but one of the hundreds of features which protect Cyclone owners from repair bills and inconvenience. Features that would probably never occur to you unless you have read the Cyclone booklet, "Fence—How to Choose It—How to Use It."

GET THIS FREE BOOK ON FENCE!

It will take you into the facts that determine fence quality. It will enable you to protect yourself in a fence purchase. It may save you a costly mistake. No matter how small or large your fence requirements are—you need this booklet before buying. Use the coupon at once.

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Pacific Coast Division: Standard Fence Company

General Offices: Oakland, California



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Please mail me without obligation a copy of your book, "Fence—How to Choose It—How to Use It."

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City..... State.....

I am interested in fencing approximately..... ft. of ☐ Industrial property
☐ School ☐ Playground ☐ Residence ☐ Estate ☐ Cemetery property

Cyclone Fence

REG. U.S. PAT. OFF.

Cyclone is not a "type" of fence, but is fence made exclusively by Cyclone Fence Company and identified by this trade mark

United States Steel Corporation Subsidiary

Are You Aware That—

(Continued from page 48)

THE PULPWOOD SUPPLY in Florida Survey Unit No. 1, covering 9,515,000 acres in the northern part of the state, amounts to 31,599,000 cords, approximately 23,000,000 cords of which are in pine.

ACTIVE COTTON SPINDLES in Southern mills in January numbered 17,494,428, or more than 60 per cent of the country's total operating spindles.

LIGHT CREAM COLORED LIMESTONE quarried from deposits near Austin, Texas, has been used in construction of 33 Federal buildings located in the Gulf States, New Mexico and North Carolina. Approximately 248,000 cubic feet of the stone was used in the structures, according to the Texas Quarries, Inc., the producers.

ORANGE PRODUCTION of the South, although reduced about 22 per cent due to low temperatures in January, is estimated at 14,656,000 boxes. The grapefruit production of 13,460,000 boxes is slightly above last year's crop. The estimated commercial crop of Florida oranges is 12,100,000 boxes, and grapefruit 11,000,000 boxes.

PETROLEUM PRODUCTION of the world last year amounted to 1,497,000,000 barrels, a gain of 5.6 per cent over the previous year. The United States, which is producing 60 per cent of the world's output, reported 909,345,000 barrels, a gain of less than 1 per cent. The South, with an output in 1934 of 613,835,000 barrels, furnishes about 67 per cent of our domestic petroleum supply.

STEEL MILL EMPLOYEES in the United States earn an average of 120 to 650 per cent more per hour than workers in foreign mills. United States average hourly rate 64.7 cents; Belgium 17; France 20.7; Germany 25.9; Great Britain 25.1; India 8.6 and Japan 9.7 cents an hour.

CONTROLLED COAL HEAT for industrial operations is making progress. Developments are taking place in the use of stoker-fired equipment for tunnel and bee-hive kilns in the ceramic industry, reports Appalachian Coals, Inc. Several successful installations are now in operation.

THE FLYING TIME between New York and Florida is less than six hours. An Eastern Air Line Florida Flyer on February 17 made the trip from Miami to New York in five hours and 34 minutes with two pilots and 13 passengers, establishing a new speed record of 215 miles an hour for the 1,200 miles. After stopping at Jacksonville for refueling, the 858 miles to New York was made in three hours and 45 minutes, or at the rate of 228 miles an hour.

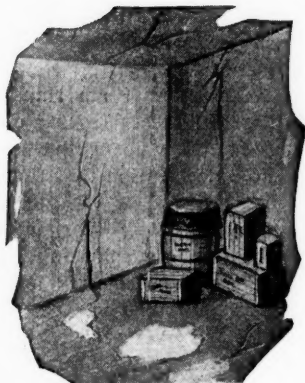
INCOME of the American people declined nearly 50 per cent since 1929. Total income paid out was \$82,300,000,000 in 1929; \$75,800,000,000 in 1930; \$63,300,000,000 in 1931; \$49,700,000,000 in 1932; and \$46,800,000,000 in 1933. No final figures are available for 1934, but there has been an increase over 1933 which is the first since the decline started in 1929. The percentage of distribution of this income showed that salaries, wages and compensation ranged from the high of 64.3 per cent in 1931 to 62.6 per cent in 1933; dividends from 7.6 per cent in 1930 to 4.5 per cent in 1933, and interest increased from 6.7 per cent in 1929 to 11.1 per cent in 1933. Rents and royalties in 1929 accounted for 5.3 per cent of the total income paid out and 4.9 per cent in each of the succeeding years.

MANUFACTURERS RECORD FOR

Let This GROUP of TRAINED

MAINTENANCE ENGINEERS

Solve your MAINTENANCE Problems



If you have a water-proofing problem, we can offer you a permanent solution.



We can tell you of the most practical way to repair and resurface holes, ruts and breaks in all types of floors.



We can recommend roof resurfacing materials that any handy man can apply to any type of roof at considerable saving in labor.

To meet an insistent demand on the part of American Industry for reliable counsel and practical recommendations for the solution of plant maintenance problems, the Building Maintenance Engineering Company offers the man in charge of the maintenance work at your plant, service that is unique and unparalleled.

We have gathered into this organization a group of engineers—each a specialist of long

experience and established reputation—and these men will give you the benefit of their seasoned judgment in the proper solution to the maintenance problems that are constantly coming up in your plant. You may avail yourself of their counsel thru this service at a nominal yearly fee. This entitles you to refer to the Building Maintenance Engineering Company, for their solution, such problems as may come up in your plant throughout the year.

YOU CAN TRY THIS SERVICE WITHOUT OBLIGATION

Before you subscribe to the Building Maintenance Engineering Company's service, we offer you the opportunity to find out how our service functions and just how much value it will be to you. We have listed below a group of common maintenance problems, the solution to one or more of which confronts you at this time. Check over the list and write us, indicating your particular problem. Without charge or obligation, we will send you our recommendations for the practical and permanent solution to the problem, so that you may see for yourself how we can be of assistance to you.

Can you recommend a material to repair or resurface a rutted, broken, badly worn (concrete) (wood) (brick) (asphalt) floor?

The size of the area to be repaired is sq. ft.

Can you make recommendations for the installation of a concrete floor that will withstand unusually heavy trucking, and be impervious to the attack of disintegrating agencies such as oils and acids?

Can you recommend a good rustproofing material for use on?

Can you recommend a good caulking material for sealing cracks around window and door frames?

Can you recommend a good wood floor preservative?

Can you recommend a treatment for a concrete floor that will harden the surface and prevent further dusting?

Can you recommend a roofing material for use on roofs?

Slag Felt

Tin Composition

Can you recommend a material for sealing cracks in building walls?

Inside Outside

Can you recommend a material for waterproofing to seal off water leaks in concrete structures?

The Building Maintenance Engineering Co.

812 Terminal Commerce Bldg.

Philadelphia Pa.

[Specialized Information on Building Maintenance Problems.]

« « LETTERS FROM READERS » »

Destroying Individual Initiative

CITRUS IMPROVEMENT COMPANY
Sanford, Fla.

EDITOR MANUFACTURERS RECORD:

It is clear that our Federal Administration has too much power, and with it is destroying individual initiative and liberty. Also, rapidly increasing government expenditures so excessively above fairly obtained government income, must be stopped without delay. A Government and its people must face a day of retribution just as an individual does for unsound and extravagant expenditures.

Furthermore our Government is courting future unfriendliness of many of its own citizens to whom it is graciously extending doles and loans. Many now receiving doles will never regain any pride they once possessed to be self-sustaining, and will hereafter feel and demand that the Government must continue to provide for them. Many recipients of Federal loans will be unable to pay them back, and any foreclosure proceedings by the Government will create mutual unfriendliness between borrower and lender. The attitude of France and the other debtor nations in default towards us at this time is an example of the unfriendliness that results from too free lending of money.

R. F. MONSALVATGE.

Cotton Research

BEAUMIER IRON WORKS
Brenham, Texas.

EDITOR MANUFACTURERS RECORD:

In your recent issue appeared a suggestion from G. W. Hardy of Shreveport, La., that the South should establish a laboratory to create new cotton uses. This is in line with what I have advocated for the past two years.

My idea is to have the cotton states organize a "Cotton Farmers Corporation" supervised by a board of directors elected by cotton farmers, one director from each Senatorial District. The directors to elect the necessary officers and a paid general manager. They would establish the necessary laboratory and engage a corps of experts who would devote their entire time to the development of new uses for cotton.

To finance such a corporation each farmer would become a stockholder of the corporation and assessed a certain sum on each bale of cotton sold. This

would be held by the buyer and forwarded to the treasurer of the Corporation. Texas raises about 4,000,000 bales each year and an assessment of 25 cents a bale would give the corporation \$1,000,000 a year. After organization of the corporation the State would have no further control than to enforce the collection of the assessments.

The possibilities of such a corporation are unlimited. Sooner or later something along this line will be done as undreamed of opportunities are waiting.

DAN HOFFMAN.

Nation-wide System of Barter

Johnson City, Tenn.

EDITOR MANUFACTURERS RECORD:

The following suggestion for a more intelligent handling of distribution through a nation-wide extension of the system of barter is submitted with the knowledge that it is open to disagreement with the Administration and accepted economic practices:

I am, let us say, a Mid-West farmer. I am burning my corn because I cannot sell it for enough to enable me to buy coal.

I am told that a few miles east of me there are coal miners going hungry because the mines may not be operated profitably.

I know that there is a railroad running between my farm and those mines and I know that this railroad needs coal for its locomotives and meal for its employees; also that this railroad and the mines have laid men off because of poor business conditions.

It is difficult to understand why we, out of our much vaunted technological ingenuity, have not been able to devise some scheme whereby the railroad could be encouraged to bring me the coal I need and take back to the coal miners the corn they must have, letting the railroad have its toll in coal and corn for its services, or, payment for such services out of funds now being used for direct relief or out of those provided to pay for crop and animal reduction and destruction.

The same arrangement might be made with regard to the wheat of the North and the cotton of the South. The producer of each of these commodities needs the other's product. In short, might there not be a nation-wide system of barter, exchange of goods for goods, until such time as capital shall have

recovered from its fright and decided to get out in the market place and play the game?

I realize that I am running counter to the opinion of the magicians of the hour, but, I cannot subscribe to the oft repeated declaration that there has been an over-production. The fact that people are unable to buy does not mean that there has been surplus fabrication. Nor do bursting warehouses and granaries mean that too much cotton, corn or wheat have been raised. There can be no over-production as long as there are people starving and in rags.

Nor does it encourage us much to follow the course of price raising through such commodity restrictions. The man who was paid to slaughter his hogs may have profited, but that is not the point. Consider the fact that the plainest kind of hog meat has risen from 5½ cents per pound to about 16 cents per pound and that we, who are endeavoring to provide meat for the destitute, find ourselves that much less able to render adequate service. And the general public, upon whom we must rely for funds, is equally less able to contribute. Purchasing power has not, as far as we are concerned, increased sufficiently to meet the rise in price and it is being forced upon us that it is not the absolute dependent alone who faces the threat of humiliating confession of pauperism. Uncle Sam's millions of relief money are steadily declining in purchasing power as he bulls the market against himself. His dollars so lavishly dispensed are buying less and less food and clothing as the days go by and demand for relief mounts higher and higher. He may not appreciate the fact, but, broadly speaking, the ratio of need is in proportion to that of price advance.

JOHN WOOD.

Quality and Service Unimpaired

HYDRAUGER CORPORATION, LTD.
San Francisco, Cal.

EDITOR MANUFACTURERS RECORD:

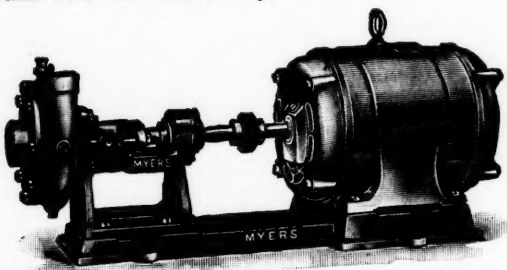
I think that you have done a remarkably fine job in keeping up the quality of your publication to such a high level during this depression. During all the time I was located in New Orleans, I relied upon the "MANUFACTURERS RECORD" as a sort of Bible to keep me posted on all development.

E. D. ROGERS

OUTSTANDING PERFORMANCE!

Again Myers engineers have triumphed in the development and introduction of Myers Centrifugal Pumps. Precision, balance and smoothness of operation are matters of record. High efficiency and absolute dependability are thoroughly established. Performance has been outstanding. Users everywhere report complete satisfaction. This briefly, is the answer to the success of Myers Centrifugal Pumps and their rapid acceptance by industry and agriculture the country over.

Our new Centrifugal Pump Catalog, No. CT34, is complete with illustrations and descriptions of the different styles and sizes in which Myers Centrifugal Pumps are now built. If you have not received a copy and desire detailed information write us immediately.



THE F. E. MYERS & BRO. CO.
ASHLAND, OHIO.

WATER FILTERS

Pressure and Gravity type for Municipal Water Supplies, Rayon Manufacturing Plants, Textile Finishing Establishments, Raw Water Ice Plants, Laundries, Etc.

ROBERTS FILTER MANUFACTURING COMPANY
604 Columbia Avenue Darby, Pennsylvania

Filtration and Pumping Equipment

*For Water Works and Swimming Pools
Sales and Installation*

BURFORD, HALL AND SMITH
140 Edgewood Avenue, N. E.,
Atlanta, Georgia

Water Purification Plants

Any Type—Any Purpose—Any Capacity

Dry Chemical Feed Machines
Swimming Pool Filters

E. W. BACHARACH & CO.
Rialto Bldg. Kansas City, Mo.



**Pumps—Deep-Well Plunger and Turbine
Strainers—and other well supplies**

**WATER PRESSURE SYSTEMS
A. D. COOK, INC.**
Lawrenceburg, Indiana

WATER MAINS AT THEIR BEST!

RELIABILITY

GREAT TENSILE STRENGTH

A HIGH DEGREE OF DUCTILITY

LESS INTERRUPTION TO SERVICE

LONGER LENGTHS

ADAPTABILITY for ANY JOINT

LOWER LAYING COSTS

FEWER JOINTS

VARIOUS COATINGS and LININGS AVAILABLE

GREATER CARRYING CAPACITY

To meet all the exacting demands of modern water main service,

and afford both safety and economy for the lives and values affected, the pipe selected must have an unusual number of features—a combination hardly to be expected in one material. But there is such a material. *Steel*—uniform and dependable in character, well fabricated into pipe—is that material. Reliability of steel pipe has been proved by the experience of many years. More and more cities are adopting it for street mains. Its inherent characteristics make it an ideal material for this type of service.

For steel pipe at its best, specify NATIONAL, the scientifically designed, expertly made, perfectly standardized product of the largest manufacturer of tubular products in the world. Check the points of merit shown above. NATIONAL engineers will be glad to furnish additional information on request.

NATIONAL STEEL WATER MAINS

NATIONAL TUBE COMPANY
Pittsburgh, Pa.

Pacific Coast Distributors—COLUMBIA STEEL CO., San Francisco, Calif.

Export Distributors—UNITED STATES STEEL PRODUCTS CO., New York, N. Y.

United States Steel Corporation Subsidiary

INDUSTRIAL NEWS

Sprout-Waldron Sales Agents

Sprout, Waldron and Company, Inc., Muncy, Pa., manufacturers of crushing, grinding, sifting, mixing, elevating, conveying and power transmission machinery, announce the appointment of the Conite Engineering and Sales Company, Nashville, Tenn., as their sales agents for Tennessee, parts of Kentucky and Alabama.

Loadmaster Distributor Announced

The appointment of John Bouchard and Sons Company of Nashville, Tenn., as Loadmaster distributors for the central portion of Tennessee, has been announced by Bucyrus-Erie Company of South Milwaukee, Wis. The Nashville agency is at 11th avenue, north, and Harrison street.

Southern Sales Headquarters

The Mathieson Alkali Works, Inc., heavy chemical manufacturing organization of Lake Charles, La., is establishing its Southern and Southwestern sales headquarters in the Second National Bank Bldg., Houston, Texas. W. Scott Hammond, Southwestern sales manager of the Mathieson works and former director of the Port of Beaumont, is to be in charge. The decision to place the office in Houston was reached after a visit by E. M. Allen, president; J. A. Kinle, vice president in charge of sales; E. A.

Hultz, vice president in charge of operations, and E. E. Routh, general sales manager. The plant at Lake Charles is one of the largest and most modern in the country and produces caustic soda, soda ash and similar chemicals for the petroleum refining, glass manufacturing and allied industries.

Goodrich Sales Up

Consolidated sales of The B. F. Goodrich Company, of Akron, Ohio, for the fiscal year ended December 31, 1934, amounted to \$103,871,717 compared with \$79,293,495 for 1933, an increase of 31 per cent. Net profit for 1934, after provision for depreciation, interest and Federal income taxes, and deduction of profit applicable to subsidiary companies' capital stock owned by The B. F. Goodrich Company, amounted to \$2,534,679 compared with \$2,272,514 in 1933. Current assets amounted to \$57,666,556 at the end of 1934 and current liabilities to \$9,414,280, giving a ratio of 6.12 to 1.

Named Assistant General Sales Manager

Central Iron and Steel Company, Harrisburg, Pa., has appointed Irving M. Smith assistant general sales manager. Before associating with Central Iron and Steel Company as manager of floor plate sales, Mr. Smith had been employed for a number of years by Alan Wood Steel Company.

Liquidating \$1,250,000 Plant

Liquidation of the \$1,250,000 plant at Cartersville, Ga., of the Georgia Manganese and Iron Company is in charge of Consolidated Products Company, 15 Park Row, New York. Located about 40 miles northwest of Atlanta, the plant was erected in 1930. Since then it has operated intermittently, the actual operation period covering about six months. During non-operating periods, the entire plant has been carefully maintained so that machinery and equipment are in excellent condition.

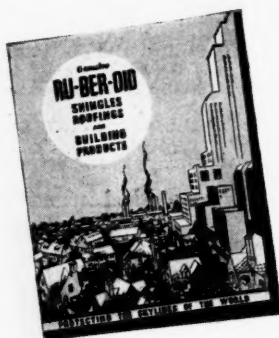
Policy Dividend of 20 Per Cent

A dividend of 20 per cent, payable on all policies of the American Mutual Liability Insurance Company, of Boston, Mass., expiring in April, 1935, has been declared by the company. This is the American Mutual's 558th consecutive dividend of 20 per cent or more.

Copper in a New Form

The discovery of a new chemical process for reducing copper to a form in which it will be more effective in the battle against rust has been announced by H. M. Rice, metallurgist and manager of the Nichols Copper Company, of Chicago, Ill., a unit of Phelps-Dodge Corporation. As a result of the process the metal, 98.3 per cent pure, may be applied to any surface in a special vehicle that has been developed, and in this form is likened to liquid copper. It may be applied by spraying, dipping, or with a brush. Laboratory and field tests are said to indicate that the new product should have a usual life of five or ten years or longer.

(Continued on page 56)



FREE! TO INDUSTRIAL PLANT MEN

Every Plant Man responsible for buildings and their maintenance will want a copy of this valuable, fully illustrated Catalogue. Its entire 68 pages are full of pertinent facts—specifications, application details, etc.

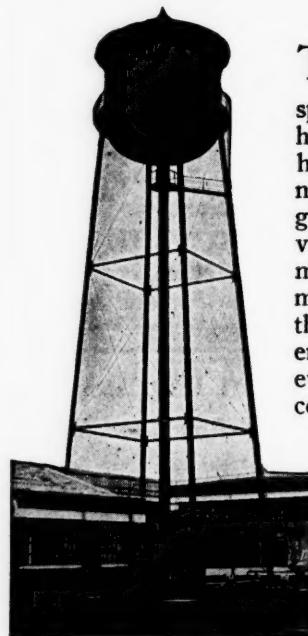
Join the thousands who have proclaimed this Catalogue a reliable guide to the wise selection of Roofing Materials, Waterproof Sheathing and Packing Papers, Preservative Coatings, Stop-leak Cements, Waterproofing Compounds, Pipe Coverings, Office and Factory Wall Panels, and a host of products you constantly need.

Be sure to get a copy. A request on your letterhead will bring this Catalogue to your desk free.

The RUBEROID Co.
ROOFING AND BUILDING PRODUCTS

Executive Offices, 500 Fifth Ave., New York, N. Y.
Baltimore—Chicago—Erie—Millis—Mobile—New York

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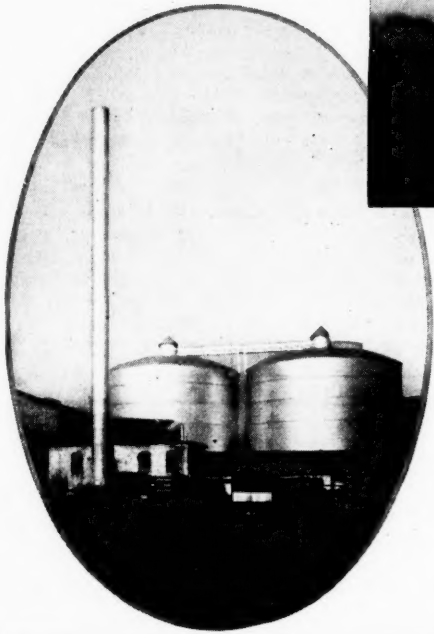


TANKS and towers designed to meet any special requirement. They have been developed to a high state of effectiveness and are designed to give uninterrupted service. They embody the most revised requirements of insurance authorities and have been erected in practically every section of the country.

We also specialize in Fuel Oil Storage Tanks, Oil and Water Storage Tanks, Acid Tanks, Vats, Chemical Tanks, Storage Bins, Stacks, and other forms of Steel Plate Construction.

♦ ♦ ♦
R. D. COLE MANUFACTURING CO.
Established 1854
NEWMAN, GA.

These two views show 3,000-ton cottonseed tanks which we built for the Mississippi Cotton Seed Products Company at Greenville, Miss. They are 70 ft. in dia. and 60 ft. high.



COTTONSEED TANKS

Steel tanks provide an economical means of storing cottonseed. Fire hazard is reduced and insurance costs lowered. The only maintenance required is painting every few years. Steel tanks keep seed in first class condition. Write for prices.

CHICAGO BRIDGE & IRON WORKS

Birmingham	1530 North Fiftieth St.	Chicago	2106 Old Colony Bldg.
Dallas	1408 Dallas Athletic Club Bldg.	San Francisco	1040 Rialto Bldg.
Houston	2919 Main Street	Philadelphia	1619 "1700" Walnut St. Bldg.
Tulsa	1611 Thompson Bldg.	Detroit	1510 Lafayette Bldg.
New York	3313-165 Broadway Bldg.	Boston	1510 Consolidated Gas Bldg.
Cleveland	2216 Rockefeller Bldg.	Havana	Edificio Abreu 402

B-339

"Surprise of my life, Bill."

"One of those Reading fellows told me to use ordinary pipe in some places in our building.

Saved us money.

But you can bet that we are still using Reading Genuine Puddled Wrought Iron Pipe where ordinary pipe can't take it."

For help in choosing the right pipe for the right place, write

READING IRON COMPANY
PHILADELPHIA

SCIENCE AND INVENTION HAVE NEVER FOUND A SATISFACTORY SUBSTITUTE FOR GENUINE PUDDLED WROUGHT IRON




Southern factories and railroads have installed Davis Tanks since 1888.

DAVIS CYPRESS TANKS

Every Davis Tank embodies the accumulated technical skill of forty-six years of tank-building.

Just as cypress is without superior for investment economy, so are Davis Tanks unsurpassed in material, method of construction and reinforcing for service. A Davis water tank on a Davis steel tower, are plant purchases which have almost no limit of life and usefulness. Ask for new catalog of sizes and capacities.

G. M. DAVIS & SON
P. O. Box 5, Palatka, Florida





SOUTHLAND PRODUCTS

—WELDED OR RIVETED—

We now manufacture and offer to the trade tanks in all sizes for pressure or gravity work. Also other steel equipment of either

WELDED OR RIVETED CONSTRUCTION
This applies to field as well as shop built equipment

Write us for information and quotations

Chattanooga Boiler & Tank Co.
CHATTANOOGA, TENN.
TANKS

INDUSTRIAL NEWS

(Continued from page 54)

Insurance Company Shows 17 Per Cent Gain

Showing a gain of 17 per cent of life insurance in force in 1934 over the preceding year, the National Life and Accident Insurance Company, Inc., of Nashville, Tenn., had a total of life insurance in force as of December 31, 1934 of \$397,162,475.

Made of Armco Ingot Iron

The advertising department of The American Rolling Mill Company has just designed an attractive new label for the use of manufacturers of porcelain enameled articles made of Armco Ingot Iron. The new label is metal-faced and carries the inscription "Porcelain Enamel on Armco Ingot Iron." It is printed on a gold foil background. Millions of Armco labels have been affixed to manufactured articles, indicating that particular product was made of Ingot Iron, a nationally advertised material with which the potential purchaser was acquainted.

"Causul" Metal Gate Valves.—The Lunkenheimer Company, Cincinnati, Ohio, manufacturers of high grade engineering specialties, is distributing a booklet illustrating "Causul" Metal Gate Valves. "Causul" metal is the result of six years' research and field tests. The company is also distributing an illustrated booklet devoted to Bronze Air Nozzles with renewable non-metallic disc.

Timken Roller Bearing Compressor.—The Pennsylvania Pump and Compressor Company, Easton, Pa., has issued Bulletin No. 157, illustrating and describing Pennsylvania Class 3AT Air Cushion Valve Compressors equipped with Timken roller bearings. Southern sales offices of the company are located in Atlanta, Ga., Greensboro, N. C., Greenville, S. C., Houston, Tex., New Orleans, La., and Tulsa, Okla.

By the Insurance Department
CONDENSED STATEMENT
SHOWING THE CONDITION OF THE

Fidelity & Guaranty Fire Corp. Baltimore, Md.

DECEMBER 31, 1934

Total income during the year	\$3,278,132.42
Total disbursements during the year	2,895,195.12
Total admitted assets	4,921,029.42
Total liabilities except capital	2,885,441.23
Capital actually paid in cash	\$1,000,000.00
Surplus over all liabilities	1,035,588.19
Surplus as to policy holders	2,035,588.19
Total liabilities	4,921,029.42
Net premiums in the United States December 31, 1934	\$4,860,611.78
Risks written in Maryland during 1934	37,632,931.00
Premiums on Maryland business in 1934	\$180,976.04
Losses paid in Maryland in 1934	73,267.37
Losses incurred in Maryland in 1934	67,013.37

STATE OF MARYLAND
Office of the

STATE INSURANCE DEPARTMENT
Baltimore, Md., March 1st, 1935

I hereby Certify, That the above is a true abstract, taken from the Annual Statement of the FIDELITY AND GUARANTY FIRE CORPORATION, BALTIMORE, MD., for the year ending December 31, 1934, now on file in this Department.

WILLIAM C. WALSH,
Insurance Commissioner.

Worthington Diesel Engines.—The Worthington Pump and Machinery Corporation, Harrison, N. J., has issued Bulletin S-500-B61. It presents much data of general interest on Diesel engines and the application of this type of prime mover to a wide range of service and industries, as well as specific information on the merits of Worthington Diesels ranging from 25 to 1000 horsepower and from one to eight cylinders.

Bucket Elevators.—The Jeffrey Manufacturing Company, Columbus, Ohio, is distributing Catalog No. 565 illustrating and describing one of the most complete lines of Jeffrey Bucket Elevators ever offered to industry. A comprehensive line of standards has been worked out to meet the demand of various industries, and these data are presented in the catalog.

Steel Plates, Etc. — By-Products Steel Corporation, Coatesville, Pa., division of Lukens Steel Company, Coatesville, with general sales offices in Philadelphia, has issued a new bulletin describing its sheared plates, pressed shapes and steel blanks, etc.

Rotary Tools.—Chicago Pneumatic Tool Company, New York City, is distributing catalog SP-1876 devoted to CP Power Vane Rotary Tools, including drills, grinders, wrenches, woodborers, concrete surfacers, etc. The rotary principle embodied in these tools has been developed to high efficiency by CP engineers.

Myers Catalog.—Myers Complete Catalog No. 67, for 1935, in a new style and size, has been issued by The F. E. Myers & Bro. Company, of Ashland, Ohio. It is devoted to pumps, water systems, hay unloading tools, door hangers, hay rack clamps and store ladders. The company is also distributing Catalog No. PW35 devoted to Myers Self-Oiling Power Pump and Water System, and Catalog No. SP35 devoted to Myers Spray Pumps.

Wood Preservative.—The Tennessee Eastman Corporation, of Kingsport, Tenn., has issued a new booklet entitled "Preservation with NO-D-K", which deals with the preservation of wood against decay, dry rot, and termites.

(Continued on page 72)

Have you--

considered making Florida your permanent home?

Have you--

personally investigated the many factors that make living a pleasure in this "Sunshine State"?

Have you--

studied the possibilities of agriculture and industry in the subtropical climate of Florida?

Visit Florida--and learn first hand what it has to offer.

For Florida East Coast literature write

MODEL LAND COMPANY

Flagler System

St. Augustine

Florida

atic Tool
distributing
wer Vane
grinders,
surfacers,
d in these
efficiency

e Catalog
size, has
& Bro.
devoted to
ing tools,
and store
distributing
ers Self-
stem, and
rs Spray

see East-
enn., has
ervation
the pres-
dry rot,



Unlike Potatoes

He has only 2 eyes

How about those remote corners of your property — the points of easy access — can your watchman "police" those lines? FENCE CAN!

A sturdy Stewart Non-Climbable Chain Link Wire Fence stands as a vandal-proof watch-

man protecting ALL points 24 hours a day. The cost of Fencing is but a fraction of the value of the protection it affords.

Write for a catalog and the address of your local Stewart Representative. He will gladly give you estimates and information regarding the features to be considered.

THE STEWART IRON WORKS CO., INC.

109 STEWART BLOCK,
CINCINNATI, OHIO.



AUSTIN BROTHERS BRIDGE CO.

Structural Steel and Ornamental Iron
Bridges, Reinforcing and Guard Fence

ATLANTA, GEORGIA
Oakland City Station

STEEL PLATE CONSTRUCTION TANKS STACKS DREDGE PIPE

Acid Tanks	Digestors	Jacketed Tanks	Settling Tanks
Breaching	Dryers	Molasses Tanks	Standpipes
Condensers	Filters	Oil Storage Tanks	Still
Coolers	Gasoline Tanks	Pressure Tanks	Vacuum Tanks

LANCASTER IRON WORKS
LANCASTER, PA.

Bristol Steel & Iron Works, Inc. STRUCTURAL STEEL

For Bridges, Buildings and All Industrial Purposes
Steel Plate and Miscellaneous Iron Work
Complete Stock Shapes, Plates, Sheets and Bars for
Immediate Shipment

BRISTOL, VIRGINIA-TENNESSEE
"SAVE WITH STEEL"

CONVERSE BRIDGE & STEEL CO.

Chattanooga, Tennessee

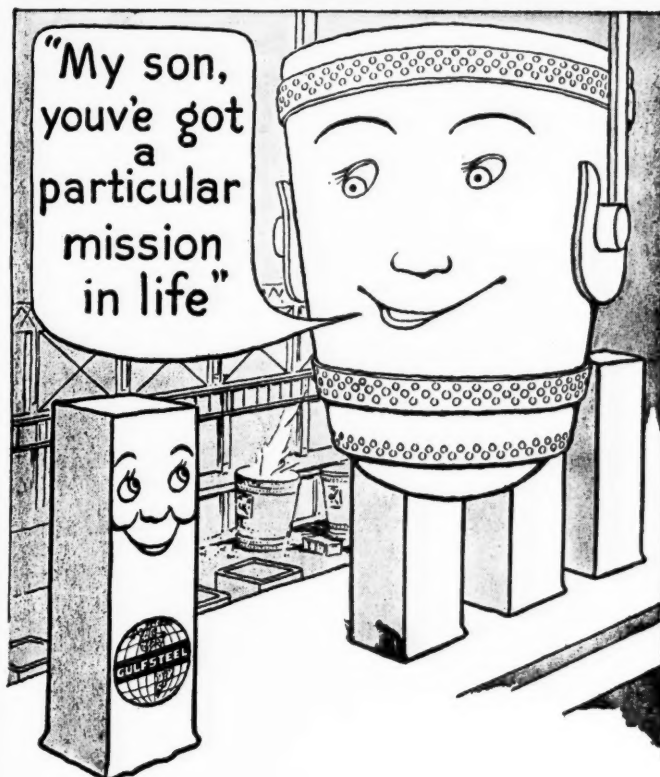
Structural Steel for all Industrial Structures,
Buildings and Bridges.

LARGE STOCK FOR IMMEDIATE SHIPMENT

GULFSTEEL

THE STEEL WITH

Personality



THERE'S ONE steel possessing not only the physical and chemical specifications, but also the "personality" to do YOUR job best... With all manufacturing operations at one big plant, GULFSTEEL can roll or select the steel best suited to fit your individual requirements. Write us for particulars, and judge for yourself.

INGOTS	BARBWIRE	STEEL SHEETS
BILLETS · SLABS	WIRE FENCE	FORMED ROOFING
BLOOMS	FENCE POSTS	RODS · WIRE
BARS · CHANNELS	STAPLES	WELDING WIRE
ANGLES	BALE TIES	NAILS
PLATES		SPIKES

GULF STATES STEEL COMPANY
BIRMINGHAM, ALABAMA

Return To Sound Principles

(Continued from page 23)

Moreover, foreign markets for our exportable surplus of many products are necessary for genuine recovery. High taxes must be absorbed by the price of the product sold; must be added to the price; hence the higher the taxes paid in this country the more we must get for our product in the foreign country. The greater will be the difficulty of meeting foreign competition.

We live in a rich country. We have spent vast sums, but we still have the opportunity to curtail expenditures without cutting off the relief necessary by a sympathetic regard for the needy and to bring the budget gradually into balance.

It is true that the reduction of relief expenditures must be gradual; but the approach to a balanced budget will inspire the confidence needed to encourage business to absorb many of the unemployed and thus to relieve the government of some of its burden.

Ambitious plans for great public works and social service should await recovery.

Assurance of a new policy of prudent economy will do more to revive business and absorb the unemployed than will further expenditures on public works. The time has come to put our house in order. The defeat of this proposal to expend five billions of dollars on unknown projects, many of no immediate necessity and of doubtful permanent value, will do much to restore confidence to those business men anxious to go forward. The defeat of this bill will be a direct assurance to the nation that the Government is determined to maintain the credit of the United States above reproach. It will be a proclamation to the world that the period of acute economic emergency in this country is over and that we are now turning calmly from the treatment of the crisis to making our recovery sound and permanent. It will be an assurance to business men—impatient to go forward—that the Administration will protect their property from destructive taxation. It will signify that we now approach the time and the task of rebuilding new and firm values out of the destruction wrought by the economic storm.

The way to permanent prosperity is the difficult path of economy and efficiency in government and the balancing of budgets of states and the nation. The people must be encouraged to go the way of independence, industry, economy and self reliance. Business is ready to resume its forward march once it can be assured that the currency will remain sound, that the budget will be balanced in a reasonable time and that economy and efficiency will inspire the government.

Life Insurance Service

(Continued from page 27)

In making possible the unique investment record of life insurance—a record which has, over many decades, won increasing recognition and approval until today life insurance and security are synonymous in the public mind.

Protection of Principal

Briefly, life insurance investments are selected so as to secure maximum safety of principal—a condition dictated by the companies' legal obligations to policyholders for the face value of each contract upon maturity. But life insurance investments are also selected so that, without sacrificing safety, the highest return consistent wherewith will be earned—a condition necessary to keeping the cost to the insured as low as possible. Thus, life insurance companies are efficient as well as conservative in their investments. In this they serve their policy holders faithfully and well.

Geographical Distribution of Investments

"Life insurance funds are placed in securities of various fundamental enterprises throughout the nation and in Canada. They flow from the older and more completely developed sections of the country where funds are not so greatly needed into the newer sections where capital is in greater demand for the development and expansion of economic enterprises.

"It is interesting that the central portions of the country are the most highly favored by life insurance investments measured in proportion to reserves. As of December 31, 1933, the latest date for which geographic segregations are available, the West South Central States led all other divisions with a ratio of investments to reserves of 200.3 per cent; followed by the West North Central Division in second place with 173.9 per cent ratio and by the East South Central States in third place with 162.5 per cent. Such ratios for other sections are, in order of rank: Mountain, 147 per cent; South Atlantic, 124.7 per cent; Pacific, 123. per cent; East North Central, 110.6 per cent. The only sections having less investments than reserves were the Middle Atlantic Division which had a ratio of 83.1 per cent and the New England States in third place with 162.5 per cent. Clearly, therefore, these two sections are the source of the life insurance funds which are invested in other sections in excess of 100 per cent of their reserves. Such a flow of money from one section to another, following the law of supply and demand, is of mutual advantage to lender and borrower.

"The contribution of life insurance, through its sound investment policies, to the nation's social and economic welfare has been, and will continue to be, of value beyond measure.

"The interests of some 60,000,000 policy holders—about one-half of our national population—must be given profound consideration with respect to any act, in whatever direction, which carries any risk of impairment of their savings."

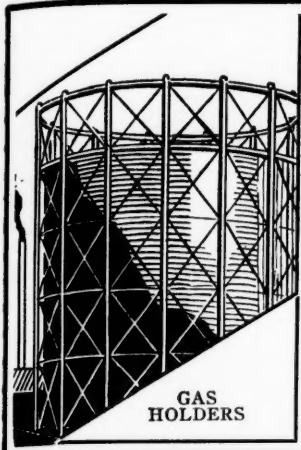
Government's Power Policy

Pointing out the destructive effect of the proposed legislation in Congress to nationalize the American power industry, Wendell L. Willkie, President of The Commonwealth & Southern Corporation, in a letter to stockholders of February 26 covering the operations of the company for the 12 months ending January 31, said in part:

The fate of your investment in this economically sound, diversified utility system is now in the hands of Congress, under a bill which declares it to be its policy "to provide at the end of five years for the abolition of the public utility holding company". We have no objection to reasonable regulation which will prevent the recurrence of any alleged abuses of the past and which will not either usurp the true function of management in the guise of regulation or interfere with the proper regulation of the operating companies by the commissions in the several states in which they operate. The present bill, however, is aimed to control and kill—not to regulate and cure.

The statement has been made before the Committees of Congress to which this bill has been referred that the holding companies have rendered no service in the utility field. This statement ignores the economic history of the industry; the fact is that the great coordinated generation, transmission and distribution systems in America today, which are the admiration of electrical engineers throughout the world, are entirely due to the financing and coordinating efforts of utility holding companies.

It is being said by those who seek under the guise of this bill to "nationalize" the power business of the country, that its passage will not work any hardship upon security holders, that the distribution of the securities of operating companies owned by holding companies among the several holders of holding company securities will eventually prove advantageous to such holders of holding company securities. This contention is obviously without merit. The debenture debt of your company must be paid in full upon dissolution prior to any distribution to preferred and common stockholders. Cash for this purpose could only be realized by forced sale of securities in a market which will be bereft of buyers by reason of the destruction of other holding company units and the prohibition in the bill against any aggregation of capital acquiring such securities. The operating company securities thus forced to be sold will also be lessened in value by the strangulating Federal regulation imposed by the bill.



GAS
HOLDERS

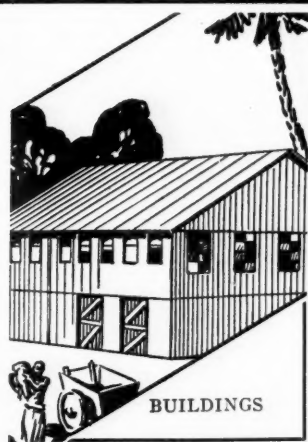
METALEX

**Protects All Metal Surfaces
Prevents Rot and Rust**

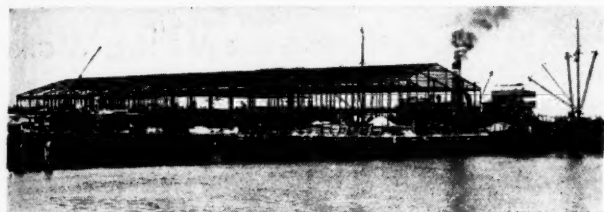
The coating is impervious. Protects against atmospheric causes of corrosion, oxygen, moisture, and actinic sunshine. Very satisfactory for tanks, buildings etc.

WRITE FOR METALEX LITERATURE

HOCKADAY INC., 20 N. Wacker Drive, CHICAGO
PAINT MANUFACTURERS



BUILDINGS



REFRIGERATION TERMINAL

Floating Equipment

Approximately 600 tons of Ingalls structural steel was used in the Indian River Refrigeration Terminal at Ft. Pierce, Florida, view of which is shown above while under construction. Write Ingalls for attractive prices on structural steel for buildings and bridges . . . also on Steel Barges, Scows, Lighters, Pontoons, Dredges and commercial boats of all kinds for Gulf Coast or Inland Waterways.

The Ingalls Iron Works Company

Main Office and Plants: Birmingham, Ala.

Eastern Plant: Verona, Pa. (in Pittsburgh Dist.) Branch Sales Offices:

New York, New Orleans, Tampa

BELMONT IRON WORKS

PHILADELPHIA

NEW YORK

EDDYSTONE

Southern Sales Offices, Charlotte, N. C.

Engineers . Contractors . Exporters

**STRUCTURAL STEEL
BUILDINGS AND BRIDGES
RIVETED-ARC WELDED**

**BELMONT INTERLOCKING
CHANNEL FLOOR**

Write for Catalogue

Main Office—Philadelphia, Pa.
New York Office—44 Whitehall St.



**I'VE BOUGHT TONS
OF IT; I KNOW
IT'S GOOD!**

Use Lyonore Metal on your next sheet metal job. This Chromium-Nickel-Iron alloy is fortified against corrosion—lasts longer and costs less per year of service than any other sheet you can buy. Write for details.



Lyon, Conklin & Co. Inc. » BALTIMORE, MD.

CENTRAL-IZE . . . for quality

Laboratory Guidance
plus
Mechanical Control
plus
Expert Supervision

=

**"CENTRAL"
QUALITY
STEEL**

Billets ~ Plates ~ Sheets ~ Flanged and Dished Heads ~ Floor Plates ~ Stampings

IN STANDARD AND SPECIAL ANALYSES

CENTRAL IRON & STEEL COMPANY...HARRISBURG, PA.

The Near Future of Ramie

(Continued from page 28)

entire area and are growing thickly together, the crop is of no commercial value but should be cut down and the tops allowed to remain on the ground. By regular cutting of the original plants, uniform growth of stalks free from limbs will be obtained. Limby ramie is worthless. The stalks somewhat larger than a lead pencil grow from three and one-half to five feet high at maturity and are cut when the flowers of the plant begin forming.

Quantity Production by Machinery

In quantity production machinery can be used for every process of agriculture, including plowing, harrowing, cultivating, planting and harvesting. Except in a year when there is a severe frost, such as the present year, four crops of ramie can be expected in a calendar year. After a frost, for the first few days the plants do not seem to be hurt, then they begin to wilt rapidly. The best plan is to cut the plants and leave them on the ground for fertilizer. While frost will kill the stalks and the leaves, it does not injure the roots. In fact, after a previous frost in the winter of 1930, the roots seemed to be greatly strengthened and rejuvenated by the frost and the next crop was superior to those previously produced.

On virgin muck land of the Everglades good results were obtained without fertilizer, but upon a test made with fertilizer the production was three times as great as that without fertilizer. The maximum yield on a carefully attended, fertilized tract was 6,000 pounds of fiber per acre, at an indicated cost, including interest on land investment, of 2¼¢ per pound.

Decorticating Machinery To Be Perfected

There are machines which can be used to decorticate ramie. The writer and associate own such a machine which is very satisfactory but which can be greatly improved upon as it requires too much hand work in connection with the operation. Upon actual test this machine in eight hours, with a single operator, decorticated approximately 600 pounds of fiber. If ramie becomes a regular crop in South Florida, considerable improvement in decorticating machines may be expected. However, 600 pounds of fiber per day is a vast improvement over hand decorticating, which in China is reported to be from two to six pounds per day.

Degomming

With all due respect to a great deal of literature which has been dissemi-

nated over a long period of years, in our experiments we found that there was no problem or "kink" connected with ramie that compared with the cleaning or "degomming" of the fiber and preparation for spinning. When the fiber is decorticated, or removed from the plant, it is coated with a tenacious gum, or rather embedded in this gum. There is ample literature describing how to clean ramie fiber. Chinese women clean it successfully by hand washings alternating with sun bleaching, which is reported to take several months to complete.

In the case of flax or linen fiber, the plants are pulled up by the roots and laid on the ground in a moist condition or soaked in open water until the wood, bark and gum rot and the fiber is easily removed therefrom not being injured by the rotting or "retting" process. When this is applied to ramie, the fiber has rotted along with the rest of the plant. The Japanese have a process of placing the fiber in tanks containing certain bacteria which attack the gum and decompose it so that the fiber is easily washed. In Germany, England and France all processes are carefully guarded secrets, but the products are somewhat expensive, so that high cost is indicated in the machinery, labor or time—or all three.

The apparent simplicity of cleaning ramie fiber does not exist. One inventor had the writer and associates worked up to a point of starting a company when it was found that the alleged inventor had been substituting imported ramie cleaned by the German process.

Spinnable Fiber on the Woolen System

Thereafter, we confined our attention to producing one single thing—a ramie fiber easily spun on the woolen system. This process was completed some time ago but was entirely impracticable because of the high cost of the process and efforts were made to cheapen this process. A few months ago an accidental discovery cut out about three-fourths of the machinery and nine-tenths of the labor required in the original process. We have, however, only one small feature of this very difficult problem—merely a process for cleaning ramie and preparing it for spinning on the woolen system, which, of course, is not a great advance as in Germany, France and England a much finer quality of ramie yarn is spun. The process, however, has introduced certain softness and elasticity which makes the fiber much easier to spin than heretofore.

In conclusion, after several years' experimenting, we believe that in the near future there will be considerable of an industry in the South in growing, processing and manufacturing ramie textiles at less cost than heretofore

known. As the problem of making spinnable fiber on the woolen process appears to be solved, so far as cheapening the cost of cleaning is concerned and adding softness and elasticity to the fiber, it will not take long for others to prepare the fiber so that it may be spun on worsted machinery, linen machinery and waste silk machinery. We do not believe that ramie will ever be spun successfully on cotton machinery. The fiber is irregular in size while cotton is usually uniform. Furthermore, it seems it would be a waste of good material to cut fiber of the length of ramie into inch or less lengths required in cotton machinery.

Tennessee Valley Work Continues

(Continued from page 25)

New York, working from an altitude of 12,000 feet "flew" the entire area, developed the aerial photographs taken by five-lens cameras, and prepared the mosaics by piecing the photographs together. Besides it was necessary to establish "horizontal control" by field survey parties, and the compilation of so-called "base maps" from pictures and control, and, finally, the reproduction of the maps in quantity.

The "horizontal control" work was handled by the U. S. Geological Survey. Part of the work is done by triangulation and part by running traverses; in both cases the control is supplementary to the mail control network previously prepared by the U. S. Coast and Geodetic Survey.

In the Chattanooga offices of the TVA 120 men were engaged in constructing planimetric or base maps. In this work the field control is spotted directly on the multi-lens photos and a supplementary check is made by the use of radial line intersection control. A final field check is made to correct errors due to inability to distinguish the exact nature of certain land marks appearing on the photographs.

Topographic maps are also being made of certain parts of the basin where planning requires it.

As an indication of the value of such maps as are now being completed, the location of the TVA's freeway, linking the Norris Dam site with Knoxville, is cited. Surveyors had marched over the rough, hilly country for months, laying out the course of the new road. A few weeks before this work was finished, aerial pictures and mosaics of the area were delivered to the TVA. It proved economical to drop the old method and begin a new study based on a study of the aerial photographs.

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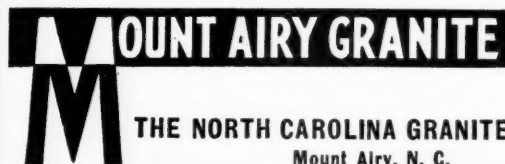
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INDUSTRIAL PROGRESS OF TEXAS

By

W. E. Talbot

President, Progressive Texans, Inc., Vice President, Southland Life Insurance Company
Dallas, Texas

FOR some years Texas has been becoming more conscious of her opportunities to build up an industrial structure to parallel agriculture; and, at the same time, develop the undeveloped resources which have lain dormant for years.

When elected President of Progressive Texans on January 18, I outlined a three-point program as follows:

1. To relieve unemployment. To increase consumption of our raw materials. To add wealth to our community by making every effort to increase the use of Texas-made products.
2. To encourage through information and industrial surveys, the location of new industries in Texas which do not compete with those already here.
3. To bring before the people of Texas and others the opportunities for profit in developing our resources, non-metallic products, potash, building

material, wool and cotton clothing manufacturing, ore, minerals and furniture.

Much progress has already been made on point number 1. The people of the United States do not seem to realize the opportunities—cheap power, long day-light working days, adequate transportation, source of many raw materials, and, last but not least, potential market of twelve millions of people.

In the last few years, we have built up our industries until a man can be clothed with everything needed; and women and children with everything except shoes. In the grocery line, many hundreds of different articles are now manufactured in the state that are becoming more and more familiar to the buyers.

Number 2—considerable information has already been assembled. We are in position today to give data on a great many opportunities for industries.

Number 3—offers one of the greatest sources of revenue of any State in the United States. Very little has ever been done along this line. There are millions of tons of ore, lying right near the surface, and close by, lime, coke, coking coal, and gas. Thousands of acres of

potash, fullers earth, barite, talc, asbestos, and many other non-metallic products that have never yet been developed. In fact, there are so many opportunities for capital that it is inconceivable that, with the market already here, there has not been a rush to Texas, instead of the necessity of constantly calling attention to our resources.

Progressive Texans hope to have a very comprehensive display for the Centennial in 1936 that will portray the different opportunities for development.

Cotton Manufacturers' Meeting

The thirty-ninth annual convention of the American Cotton Manufacturers' Association will be held at the Bon Air-Vanderbilt Hotel, Augusta, Ga., April 25-27, according to W. M. McLaurine, secretary, of Charlotte, N. C. A program is now being prepared. Colonel Frank P. Douglass, of Washington, member of the Textile Labor Board, will be the principal speaker on the opening day. The board of governors will meet on April 24, to discuss business matters and prepare reports and recommendations to submit to the convention. Present officers of the Association include: William D. Anderson, of Macon, Ga., president; Thomas H. Webb, Concord, N. C., first vice president, and Donald Comer, Birmingham, Ala., second vice president.



"IN 40 YEARS FROM NOW IT SHOULD ● STILL BE A GOOD PAVEMENT"

Before the turn of the century, engineers were proudly viewing their completed brick pavements and confiding their belief that *here* was a pavement that would last.

Many of those pavements have long since exceeded the highest hopes of the engineers who built them, not only for length of life, but for lowest maintenance cost as well.

Today, the second and third generation of engineers are now relaying some of those 40-year old brick and saying—

"I shouldn't wonder if this pavement would last *another* 40 years or more."

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Where you desire the minimum in pavement costs, use brick. Neither the weather nor the traffic will destroy it.

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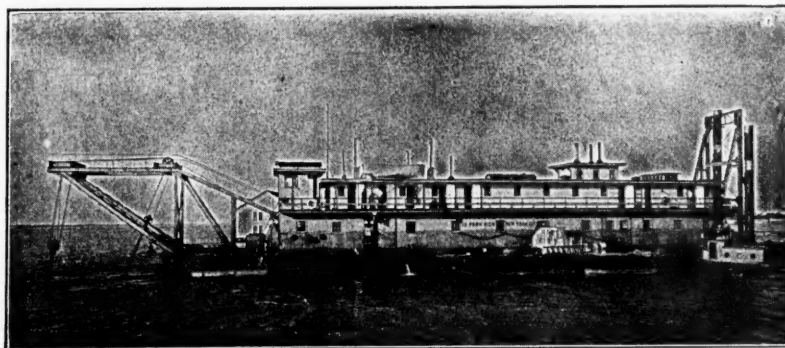
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United Action Necessary

(Continued from page 24)

cial burden which is impossible of definite calculation. It will not accomplish its purpose and endangers the jobs of all. It represents the acme of the reform theory of redistribution of wealth, because no real effort has been made to make the plan financially solvent.

In Washington's farewell address we find these words:

"In all the changes to which you may be invited, remember that time and habit are at least as necessary to fix the character of governments as of other human institutions; that experience is the purest standard by which to test the real tendency of the existing Constitution of the country; that facility in changes based upon the credit of mere hypothesis and opinion exposes us to perpetual change because of the endless variety of hypothesis and opinion."

Unity of Action

Americans have been unthinking, careless and selfish, but they can be aroused. Their pride in their land and their heritage will yet bring them to its defense. American industry has been a sleeping giant. The time has come to awake, to act, and in that action crush out all the vicious parasitic usurpers. But it is

difficult for the individual manufacturer or business man acting by himself to do much to help solve national problems. We will advance only as we learn to act in unity. We must aggregate the numerous parts of our industrial structure into one consistent whole.

The constructive policies offered by American industry a few months ago should be enthusiastically accepted and a genuine partnership of interest developed so that all industries, North and South, East and West, may enlist in a comradeship of human purpose. I believe that in united action lies our greatest hope of preserving for industry as a whole a full measure of individual liberty, the continuance of industrial enterprise and economic development and the restoration of the jobless to private employment.

Full recovery depends upon the effectiveness with which the industrial viewpoint is presented to those in authority and impressed upon the program of national policy being formulated by Congress. We must have supporters in every precinct in the land. Having sunk our petty hobbies we must present our common cause at the bar of public justice with such clearness that men of every place and calling will understand what we are talking about. The shades of our forefathers call us to this task.

My message to the manufacturers of

the South is like that which Patrick Henry sent from Virginia to Massachusetts, when he heard of Concord and Lexington: "I am not a Virginian, I am an American." We are not industrialists of the South or manufacturers of the North—we are Americans. And we must be mindful of the principles that have made this country great; the principles that have made it a nation of free men; the principles which prompted Jefferson to stand up in the Legislature of Virginia and fight through those bills which determined the future of his country and ours.

New Terminal At Houston

Growth of the terminal business and the increasing importance of Houston, Texas, as a logical location for handling bulk cargoes, are, according to a statement issued for the General American Transportation Co., the reasons for the company's decision to construct a new terminal at that point. Capacity of an existing terminal at Corpus Christi, purchased last Fall, has been doubled. With these new facilities, two terminals located on opposite banks of the Mississippi River at New Orleans and a terminal at New York, the company will be in a position to handle bulk liquids totaling 3,500,000 barrels.

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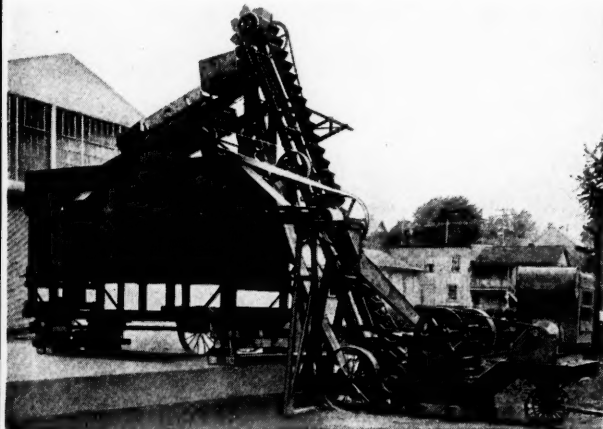
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Southern Textile Exposition Opens April 8 at Greenville

THE Southern Textile Exposition is to be held in Textile Hall, Greenville, S. C., April 8-13. The show was postponed from October on account of the strike. Practically all the space in the steel Annex and on the first and second floors of Textile Hall has been sold, states William G. Sirrine, president of Textile Hall Corporation. The management has prepared diagrams of the balcony to accommodate others who are inquiring in regard to space.

The decorations this year have been carefully planned. Several thousand yards of locally dyed broadcloth will be used. The building has been put in fine condition, scoured, painted, and calcimined throughout.

Over one hundred thousand tickets will be distributed to the textile plants of the country.

The public will be admitted on the first and last days of the show, Monday and Saturday. On all other days the Hall will be opened only to those having some connection with the textile industry. This has been determined upon in order to take care of the unusually large attendance which is expected and to give

the exhibitors full opportunity to meet and talk with their customers.

All executives, their associates, superintendents, master mechanics, department heads, and operatives in cotton, wool, worsted, silk, and rayon mills, and in dyeing, bleaching and finishing plants are cordially invited to attend. There will be interesting group meetings.

April 8th, 9th and 10th the secretary of the Textile Foundation and the heads of all American textile schools will be present. Wednesday, April 10th, the Greenville Section of the American Society of Mechanical Engineers will have a divisional meeting. Friday, April 12th, the Southern Textile Association will have an exposition dinner. Other interesting events will be on the program for the week.

Increased Use of Diesel Power

Growing popularity of Diesel power units is shown in the increased production by the Caterpillar Tractor Company, according to J. C. Alban of the Alban Tractor Company, Baltimore. A total of 237,314 horse power was produced by the Caterpillar Tractor Co. last year, more than double that of 1933 and 200 times greater than the Diesel power built by the company in 1931. Mr. Alban stated that 3,000 Diesel engines were produced at the factory last year.

These Diesel engines, because of their

dependable service, efficiency and economy of operation, have been adopted as standard power by 13 of America's leading excavator builders, five large compressor manufacturers, three leading industrial locomotive producers, and makers of loaders, hoists, winches and material handling equipment manufacturers. Diesel popularity has extended to stationary power units. Hundreds of these installations have been sold for mining, milling, ginning, pumping and other operations.

The Pan-American Airways in its Trans-Pacific airway development have purchased Diesel tractors and power units for construction and operation of air bases in the Pacific islands. They will operate General Electric generators to furnish light, pumping service and communication power. Another outstanding installation is the largest Diesel tractor fleet in the world which is operated by the United States Indian Service on the Pima Indian reservation land project. A tract of 50,000 acres has been leveled, roads built, and ditched to supply water from the Coolidge Dam. The reclaimed land is being developed into 10-acre farming tracts. This job has been called "one of the toughest" and the fleet of "Caterpillar" Diesel 50 tractors is said to have operated at an average fuel cost per tractor for a 10-hour day of only 98.9 cents.

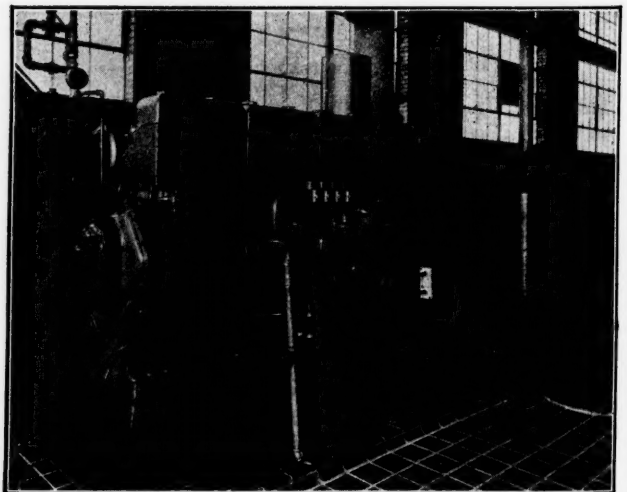
THE LAST RESORT

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The Viking model 8 cylinder



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Gas or Gasoline



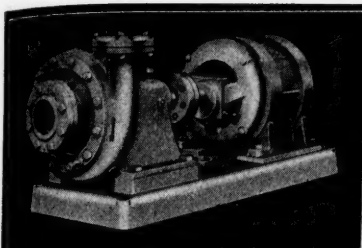
At the Steel Co. of Canada, Hamilton, Ont., 2 Viking 11 6 cyl. 425 H.P. Sterling engines running 1200 R.P.M. direct connected to a Cameron centrifugal pump as a standby unit.

STERLING ENGINE COMPANY

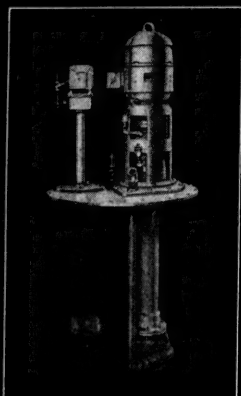
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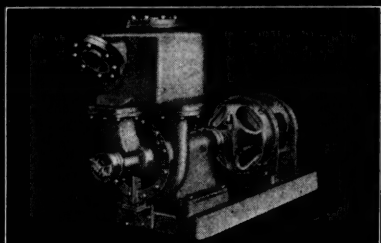
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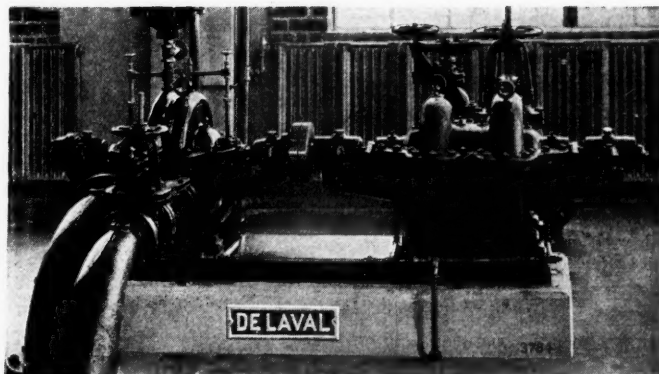
THE Ames Pumps, illustrated above, have incorporated in their design and construction, features that immediately set them apart as *DISTINCTIVELY DIFFERENT*—not only in better materials and workmanship—but, above all else, in *PERFORMANCE*.

• WRITE FOR DESCRIPTIVE LITERATURE AND FIND OUT WHY AMES PUMPS ARE DIFFERENT

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Water Turbine Drives Water Works Pumps

PART of the water supply of Kingsport, Tenn., comes from a mountain reservoir 700 feet above the city, while the remainder is pumped from the Tennessee River. After proper treatment and filtration all of the water is then forced into the mains under 265-ft. head by pumping equipment in the main station, including the 345-g.p.m. **De Laval** pump driven at 1800 r.p.m. by a **De Laval** two-stage hydraulic turbine, shown above, which utilizes the high-pressure supply as a source of power. In the same station there is also a **De Laval** two-stage motor driven pump of 1400-g.p.m. capacity, and a **De Laval** two-stage motor driven pump of 2000-g.p.m. capacity, while at the river intake there are three **De Laval** motor driven pumps of 700, 1000 and 1400-g.p.m. capacity, all working against 135-ft. head.

The Kingsport water works was designed by Wiedeman & Singleton, Atlanta, Ga.

DE LAVAL STEAM TURBINE COMPANY
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"Never Lets Go"

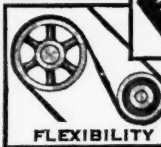
ALLIGATOR TRADE MARK REG. U.S. PAT. OFFICE STEEL BELT LACING



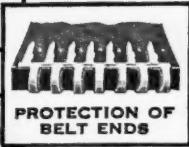
**GREAT
STRENGTH**



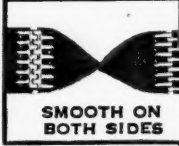
**JUST A
HAMMER TO
APPLY IT**



FLEXIBILITY



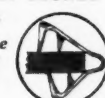
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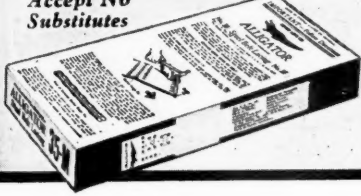
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Accept No
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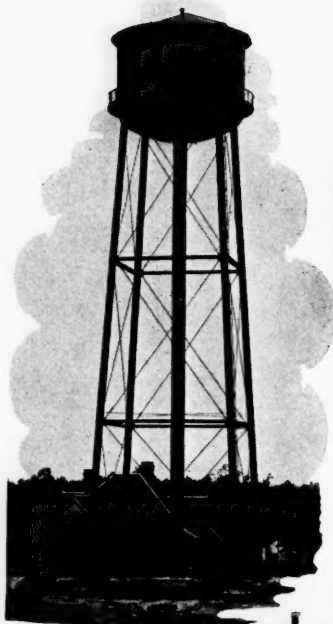
TRADE MARK
REG. U. S. PAT. OFF.



Revamped Systems for Fire Protection

AMONG improvement programs undertaken by Southern plants and municipalities are the installations of modern fire protection systems. An abundance of water, when it is needed, is assured from modern elevated tanks to supply automatic sprinkler systems. Illustrating the types of such equipment are improvements made some months ago by the Thomasville Chair Company, Thomasville, N. C. They include three 100,000 gallon elevated tanks for sprinkler service, replacements of certain frame walls with brick walls, additional water main connections, etc. As reported by the Chicago Bridge & Iron Works in its last issue of "The Water Tower", these improvements have made a saving of from 20 to 25 per cent in insurance premiums.

The Chicago Bridge & Iron Works is completing the erection of a 1,000,000 gallon elevated tank for municipal service for Thomasville, N. C.; it has an order for a tank for Thomasville, Ga., and about a year ago erected a 100,000 gallon elevated tank for Thomasville, Ala.



New Tanks Installed for Automatic Sprinkler System



Plants of Thomasville Chair Co.



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ACI producers and their Sub-Agents offer the largest assortment of quality coals in the world, suitable for all industrial, by-product, metallurgical and gas producer purposes. A list of producers and agents will be furnished on request.

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FOR manufacturers of equipment, where the parts require highly polished surfaces and extremely close fit in assembly, B & L engineers offer a special grade of small diameter ground shafts — DRAWN, GROUND AND POLISHED to mirror-finish and close tolerances. Available in diameters of $\frac{3}{4}$ " and under.



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No.-4-R.



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Pattern Making
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Modern Equipment
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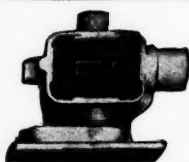
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Nickel, Chrome and Other Alloy

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**CLEAN, PRECISE
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Iron, Brass, Bronze, Aluminum,
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Complete Foundry Service. Pattern and Machine Shops.
We specialize in the quantity production of small and
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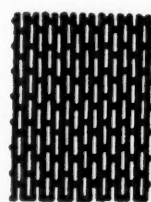
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Write for Copper, Brass, Tin, Zinc or
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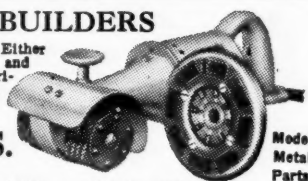
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Mechanical Productionists
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FOR MANY OPERATIONS

YOU CAN'T GO WRONG WITH THE STRAND

Type M 5

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THEY MAKE GOOD
MANY TYPES AND SIZES
1/8 to 2 H.P.
HORIZONTAL
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Manufactured By

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Set Screws

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Hexagon S. F. and Castle Nuts

Machine Work

Special Screw Machine Work
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Mid-West Screw Prod. Co.,
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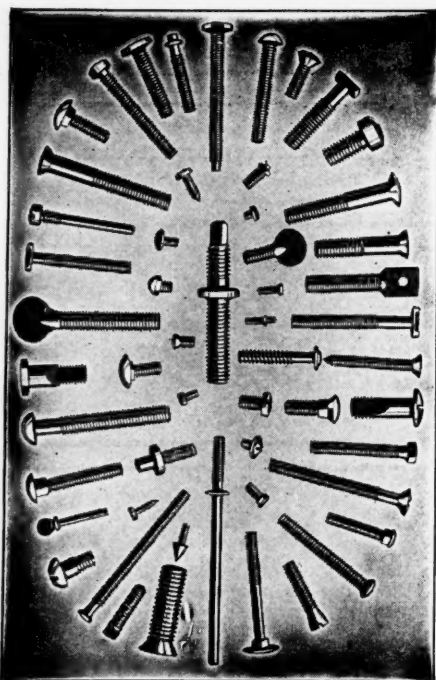
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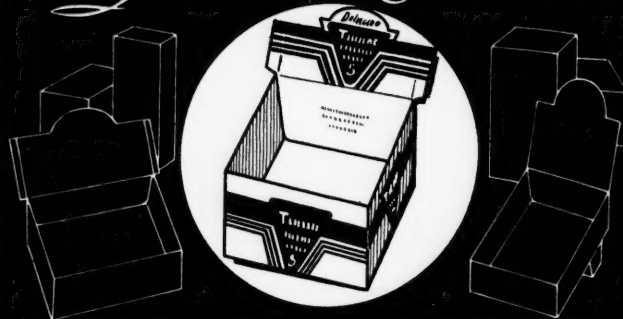


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Specialists in upset work.
Write for prices, if special submit samples
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TORRINGTON, CONN.

THE Aristocrat OF BOXES



We are prepared to produce for you the box beautiful without sacrificing strength or practicability . . . at a price you can afford to pay. Our own art department will gladly submit designs and suggestions . . . give us the opportunity to "show you" on your next box requirements.

OLD DOMINION BOX COMPANY, INC.

Plants and Offices
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NORFOLK AND THE BEACHES

Norfolk's Strictly Fireproof Hotels
Norfolk, Virginia

Attractive accommodations for guests
over 600

Convention Hall seating capacity 200
Committee rooms seating capacity 100

Daylight sample rooms



While cosmopolitan in its general appeal, and modern up to this moment in its equipment, there is a peculiar flavor of The Old South here which Southerners are quick to note and appreciate. They feel at home and come back to us again and again.

Rates \$3.00 per day and up. Every room with bath or shower. Centrally located.

The Southern Hotel
BALTIMORE

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that lead to

ORDERS

and

CONTRACTS

It is the experience of readers of the DAILY CONSTRUCTION BULLETIN that leads in the advance news items reported from day to day result in securing valuable orders.

They write us:

We certainly do appreciate the nice lot of orders we have gotten from the Daily Construction Bulletin.

We find the Daily Construction Bulletin of more help than we at first thought possible.

The Daily Construction Bulletin is the best thing of the kind that we get.

AN INDUSTRIAL AND CONSTRUCTION
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ON 250 DAYS A YEAR
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For every type of business firm going after business in the South from MARYLAND TO TEXAS.

Order single and bulk subscriptions for the home office and branches and for representatives located in the South.

Special Trial Offer 1 Month---\$1

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**DAILY CONSTRUCTION
BULLETIN**

Baltimore, Md.

a Sound Advertising Service for a limited number of concerns..

☆ THERE are a few progressive business organizations in the South who could profitably use the services of Groves-Keen, Inc. in some one or more of the following phases:

Market Research.
Sales Planning.
Preparing new sales literature.
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Art work of all types.
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For eight years Groves-Keen, Inc. have been constructively serving a small group of progressive business organizations who demand that every dollar spent in advertising show satisfactory returns.

Complete information about our services gladly furnished on request.

GROVES-KEEN, Inc.

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To represent MANUFACTURERS RECORD and DAILY CONSTRUCTION BULLETIN in Missouri and Arkansas. Car required. Please write giving references, to

Department "S"

Manufacturers Record—Baltimore, Md.

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BIRMINGHAM'S

AIR-CONDITIONED
COFFEE SHOP

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250 ROOMS 250 BATHS

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250 Rooms - 250 Baths

Printup Hotel, 100 rooms.
Reich Hotel, 150 rooms.

A. P. Reich, Mgr.

GADSDEN, ALA.

INDUSTRIAL NEWS

(Continued from page 56)

ENDURO Stainless Steels.—Booklet No. 125-A, devoted to ENDURO 18-8 stainless steels, has been issued by Republic Steel Corporation, Youngstown, Ohio. A feature of the publication is a table showing the degree of corrosion-resistance exerted by ENDURO Stainless Steel, Types 18-8, S and AA in the presence of several hundred individual chemicals, solutions and other reagents.

Wagon-Scraper and RollClear Ripper.—Literature recently issued by the Continental Roll and Steel Foundry Company, Industrial Equipment Division, Chicago, Ill., includes a folder illustrating and describing the new Continental Wagon-Scraper, which is a combination scoop-up and carry scraper, and a hauling dump-wagon and distributing machine. The company has also issued a folder devoted to the Continental RollClear Ripper, built of Dynamic Steel for all size tractors, and designed for ripping up old gravel, macadam, asphalt roads and streets, or loosening earth surfaces. Both of these machines were described in the February issue of the MANUFACTURERS RECORD.

Silico-Manganese Spring Steel.—Bethlehem Steel Company, of Bethlehem, Pa., has issued Folder 305, devoted to Bethlehem Silico-Manganese Steel, a product which was pioneered in Bethlehem plants more than 25 years ago. It is designed for heavy-duty springs of long life.

Grasselli Chromated Zinc Chloride.—Grasselli Chromated Zinc Chloride is described in a booklet issued by The Grasselli Chemi-

cal Company, Inc., of Cleveland, Ohio. This product, predominantly Zinc Chloride with the addition of Sodium Bichromate, has been developed after exhaustive experiments and is now offered as an improved wood preservative.

Steel Shafting, etc.—Bliss & Laughlin, Inc., Harvey, Ill. and Buffalo, N. Y., are distributing a folder illustrating and describing B & L steel shafting and small rounds—turned, drawn, ground and polished. This company has had 44 years' experience in the manufacture and application of steel shafting to the needs of industry.

Type E Stoker.—Combustion Engineering Company, Inc., New York City, has issued catalog, No. E-8, illustrating and describing Type E, center-retort, underfeed stoker. The publication presents comprehensive information on stoker construction, operation and control, an introductory chapter is devoted to the economics of buying a stoker and shows numerous diagrams delineating the typical ash pit and air duct arrangements, as well as applications to various types of boilers.

Manly Jails.—The Manly Jail Works, of Dalton, Ga., prominent contractors for tool proof jail and prison work, specializing in

modern cell equipment for city and county jails, has issued a booklet attractively illustrated, which shows some outstanding work done by the company.

Fuel Oil Combustion Efficiency.—The Sterling Engine Company, Buffalo, N. Y., is distributing a folder illustrating and describing the FLO-RATOR, a new product of the Sterling company especially developed to promote good combustion of viscous fluids in oil fired boilers.

The Formation of Capital.—By Harold G. Moulton, published by the Brookings Institution, Washington, D. C. Price \$2.50.

This book is the third in a series of four studies on the Distribution of National Wealth and Income in Relation to Economic Progress. The first two books were "America's Capacity to Produce" and "America's Capacity to Consume" and this volume analyzes the factors involved in transforming money savings into capital equipment. It challenges traditional conceptions as to the forces which govern the growth of productive capital; demonstrates the dependence of capital expansion upon consumptive demand; and discloses how excessive savings may produce financial disorder rather than new capital goods.

EARLE

The Earle Gear & Machine Co.
4719 Stenton Ave.,
Philadelphia, Pa.
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Cut Spur, Bevel, Herringbone,
and Worm Gears

All sizes. Every description. Operating Machinery for Bridges, etc. "Lee Simplex" Cold Metal Saws.

GEARS

Do You Know That

POOR'S Register of Directors in the United States and Canada

for 1935 is now ready for delivery that it shows the affiliations of over 80,000 of the nation's business leaders that it lists over 10,000 corporations showing officers, directors and sales managers of each that it has a geographical supplement listing corporations and individuals by city and state?

Here is an invaluable tool for corporation officers and executives for establishing new contacts, checking interlocking directorates, advertising and sales promotion activities.

May we send you descriptive literature?

POOR'S PUBLISHING COMPANY

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90 Broad Street, New York, N. Y.

THE IDEAL LOCATION FOR INDUSTRIES

MANUFACTURERS who are planning new factories, expansions or branch plants and who at the same time want to enjoy the advantages of a location away from congested centers should not fail to investigate

TUPELO, MISSISSIPPI

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A LOCATION with an adequate supply of T.V.A. hydro-electric power at the nation's lowest rate!

A LOCATION where both management and employees can live in a health-building climate!

A LOCATION where there is an abundant supply of intelligent and loyal labor of native stock!

A LOCATION where excellent water in abundance is found and which is so necessary to many manufacturing processes!

A LOCATION where the tax rate is conservative!

A LOCATION where cotton, timber, ceramic clays and farm products are immediately available!

A LOCATION where healthful outdoor recreation is possible a great part of the year and where there are adequate facilities for relaxation and enjoyment!

A LOCATION where there is a progressive and cooperative spirit among all the business interests!

A LOCATION that is well served with exceptional transportation facilities leading to and from expanding markets!

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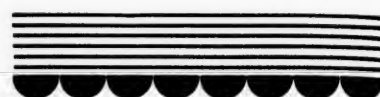
Write us for specific information regarding your problem.

CHAMBER OF COMMERCE » » TUPELO, MISSISSIPPI



RESALE
MACHINERY

DEPARTMENT
EQUIPMENT SUPPLIES



Gregory Hi-Grade Rebuilt Electric Motor Bargains

A. C. MOTORS			
3-Phase—60-Cycle			
HP	Make	Type	Speed
250	Westinghouse	CK	580
150	General	form K	600
75	General	KT	1200
50	Crocker Wh.	Q	570
25	Allis Chalmers	AN	1150

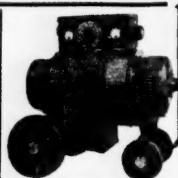
SYNCHRONOUS MOTORS			
3-Phase—60-Cycle			
HP	Make	Type	Speed
350	Ideal	SMS	1200
240	General	ATI	514

GASOLINE ENGINE DRIVEN ARC WELDER
200 Amp. Gen. Elec., compound intp. arc welding gen., with four cylinder engine, control panels, stabilizing coil, resistance, cable and electrode holder.

STEAM TURBINE SET
150 KW. Gen. Elec. Curtis, D. C.

Send for Special List K-34

GREGORY ELECTRIC CO.
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ARC Welder Bargain List**
The new 40 Volt type—Electric Drive, Gasoline Engine and "Build Your Own" Generators—all at tremendous savings.
RENT — NEW — USED
Write for catalog
Hobart Bros. Co.,
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STANDARDIZED CUTTING AND WELDING TIPS

Interchangeable with various types of torches; also apparatus, accessories and complete outfits. Priced right. High quality and workmanship. Write for catalog.

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1400 W. Baltimore St., Baltimore, Maryland.

**GUARANTEED
Rebuilt
Welders**

Buy MORECO completely rebuilt Welders for positive trouble-free service. Priced extremely low. Money back guarantee.

THE MOTOR REPAIR & MFG. CO.
1557 Hamilton Ave., Cleveland, O.

All sizes in stock. What do you need?



POWER FACTOR CORRECTION

First Class Static Condensers or Capacitors
1—30 KVA Electric Mehry. Co.—3/60/2300 V.
1—30 KVA Westinghouse—type LD—3/60/2300 V.
1—60 KVA Westinghouse—type LD—3/60/2300 V.
1—100 KVA Westinghouse—type LD—3/60/2300 V.
1—120 KVA Westinghouse—type LD—3/60/2300 V.
1—150 KVA Westinghouse—type LD—3/60/2300 V.
Synchronous Motors Synchronous Condensers

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AIR COMPRESSOR

148 C.F.M. 250 lbs. Two Stage
Penna. 8" & 4 1/2" x 8", Belt Driven.

Practically New

**MACHINE TOOLS
ELECTRIC MOTORS &
GENERATORS
AIR COMPRESSORS
BOILERS—PUMPS**

DELTA EQUIPMENT COMPANY

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RAILS NEW & RELAYING ALL WEIGHTS

Let us know your needs. We may have material in stock near you.

WE BUY RAILS FIT TO RE-LAY

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New Frogs and Switches at low prices.

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NEW-USED-UNTESTED
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Reconditioned pipe, new threads and couplings, all sizes, 3/4 in. to 36 in., guaranteed suitable for all practical purposes.

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Large quantity new and used Government material in excellent condition, ready for immediate shipment. Low prices.

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PIPE

**NEW THREADS AND COUPLINGS
GREENPOINT IRON & PIPE CO. Inc.**

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**NEW-USED
RECLAIMED
FROM 1870-72**
Cut to Length and Stocked

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STRUCTURAL STEEL

NEW & USED

MARYLAND PIPE & STEEL CORP.

OSTEND & SCOTT STS.
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PIPE

PIPE FITTINGS

VALVES

TRANSFORMERS— SALES AND REPAIR SERVICE

3—400 KVA Pittsburgh Transformers, \$760.00
60 cycle, 6600—220/440 volts. EACH.

We carry a complete stock.

Write for Catalog No. 129-B

All transformers guaranteed for one year.

WANTED: Transformers, burned-out or in operating condition.

THE ELECTRIC SERVICE COMPANY, Inc.

"America's Used Transformer Clearing House"

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Complete Machine Shop Equipment For Sale

(Without Real Estate)

**Suitable For Maintenance Shop
For Mill Repairs**

28" swing x 30' bed Harrington Screw Cutting Lathe with complete equipment. 25' centers. Very desirable for roll and long shaft turning.

20" swing x 10' bed Bradford Quick Change Gear Lathe, with chuck and regular equipment.

13" swing x 7' bed Carroll-Jameson Screw Cutting Lathe, with chuck and regular equipment.

16" Gould & Eberhardt Back Geared Shaper, with vise and countershaft.

24" Back Geared, Power Feed Drill, circular table, square base.

14" Sensitive Drill, Belt Drive.

Universal Milling Machine, back geared. Working surface of table 32" x 7". Complete with dividing heads, vise, arbor, etc.

Iron Working Planer. 30" x 30" x 8". Table between pockets 8'. One head on cross rail.

Also Double End Emery Grinder with countershaft.

Hack Saw, capacity 6" x 6".

Shafting, Hangers and Pulleys for the erection of the above machines.

The above 9 machines and miscellaneous shafting, etc., are now in storage and will be sold as one lot for the extremely low price of \$3,500.00 FOB Philadelphia.

Here is a wonderful opportunity to secure a complete shop equipment exclusive of small tools.

Machinery All In First Class Condition

PENN LIQUIDATING COMPANY

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EQUIPMENT NOW AVAILABLE

3—407-hp. Edgemoor Boilers, 200 lb. pressure, complete plant.

2—813-hp. Edgemoor Boilers, 300 lb. pressure, complete plant.

2—354-hp. Sterling Boilers, 200-lb. pressure, with superheaters, complete plant.

6—520-hp. Heine Watertube Boilers, with superheaters, 200 lb. pressure, complete plant.

1—180 kw. Chuse Uniflow Engine-Generator Set.

1—300 kw. Chuse Uniflow Engine-Generator Set.

1—150 kw. Skinner Uniflow Engine Set.

1—320 Ames Uniflow Unit, complete.

2—150 kw. Allis-Chalmers Corliss Units.

2—600-hp. McIntosh-Seymour Full-Diesel Engines.

1—200 kw. Buckeye Engine-Generator Set.

*The above is only a partial list. We have also quite a listing of turbines, all sizes, Diesel engines, engine-generator sets, motor-generator sets, motors, etc.

List your equipment with us.

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120 Lemeke Building, Indianapolis, Ind.

LIQUIDATION

\$1,250,000.00 PLANT OF THE GEORGIA MANGANESE & IRON COMPANY
ENTIRE PLANT PURCHASED NEW 1930—OPERATED LESS THAN SIX MONTHS

CRUSHING EQUIPMENT

- 1—4' Symons Cone Crusher, Texrope Drive, 100 HP. Motor.
- 1—Set 42"x16" Allis-Chalmers style B Crushing Rolls, Texrope Drive, 2-20 HP. motors.

- 2—4'x10" Allis-Chalmers Rod Mills, complete, Texrope drives, 50 HP. motors.

CONVEYORS

- 1—Apron Feeder, 60"x5'3" C/C, Speed Reducer, coupling, 7½ HP. motor.
- 1—253 ft. c/c 30 in. Belt Conveyor, with Falk reducer, 30 HP. AC motor.
- 1—131 ft. 16-in. Belt Conveyor, with Falk reducer, 7½ HP. motor.
- 1—205 ft. c/c 20-in. Belt Conveyor, with Falk reducer, 15 HP. motor.

WASHERS

- 2—25' Greenway Patent Hutch Log Washers, speed reducer, 30 HP. motor.
- 1—16' Double Log Washer, speed reducer, 20 HP. motor.

VIBRATING SCREENS

- 12—Traylor Vibrating Screens, 2—48"x81", type FB4, 10—42"x72" Type FB2, complete.

JIGS

- 5—Sets of 3 each Woodbury Jigs, 48"x30", Texrope Drives, 5 HP. motors.

TABLES

- 20—Deister Plat-O Tables, each 5'x14'3", 3 HP. motors.

CLASSIFIERS

- 2—Dorr Bowl and Rake Classifiers, Type

SPECIAL—CAST IRON PIPE

12,000'—24" Bell & Spigot, consisting of approximately 546 lengths 24"x12" Class B, 409 lengths 24"x12" Class A.

1,200'—20" Bell & Spigot (DeLa-vaud) Class 100.

2,400'—12" Bell & Spigot (DeLa-vaud) Class 150.

1,300'—10" Class 150 and 1,200'—16" Class 100 and 150.

All of this Pipe was purchased new and installed underground six years ago. It is in excellent condition with full complement of fittings and valves; also selection of spare valves and fittings.

- DSDB, 20" dia. bowls, 6'x33' long Rake Classifiers, complete.
- 5—Drag Dewatering Conveyors, 4' wide, 16' C/C, each with 3 HP. motors.

PUMPS

- 2—10" and 2—8" 3-stage Dayton-Dowd Centrifugal Pumps, each directly connected to 400 HP. and 200 HP. AC motors.

- 2—8"x10" Dayton-Dowd Centrifugal Pumps, Type SLH, 75 HP. motors.

- 1—6" Dayton-Dowd Centrifugal Pump, size 6-CS, 50 HP. motor.

- 8—6" 3-stage Dayton-Dowd Centrifugal Pumps, 200 HP. motors.

- 2—4" Type CS Dayton-Dowd Centrifugal Pumps, 40 HP. motors.

- 4—Wilfley Centrifugal Pumps, 3"x11", model C, 20 HP. motors.

All of the above motors are AC equipped with semi-automatic starters, time element over-load and time element undervoltage protection.

ORE CARS

- 10—Steel Ore Cars, 100,000-lb. capacity, standard Gauge.

MISCELLANEOUS

- 1—30-ton Plymouth Gasoline Locomotive, standard gauge.
- 1—20-ton 30' span and 1—10-ton 24' span Shepard Niles Traveling Cranes.
- 1—Fairbanks-Morse Track Scale, capacity 200,000 lbs.
- 1—48' centers, 14" steel enclosed Bucket Elevator, 15 HP. motor.
- 1—Portable Class 220 8"x6" Gardner-Denver Gasoline Compressor.
- 4—400 KVA Westinghouse Transformers.
- 10—150 HP. and 2—100 HP. GE Slip Ring motors, 3/60/2200 V, 865 RPM.
- 1—Thew Gasoline Crawler Shovel, 1 yd. 25,000 lbs. Copper Cable, Drill Press, Tool Grinder, Pipe Machine, Steel Pipe, Electrical Fittings, Valves, Poles, Transmission Hardware, Miscellaneous Supplies.

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Representatives on Premises—Visit the Plant

SERVICE SUPPLY SPECIALS SALE OR RENT

- 1—¼ yd. P&H Full Revolve Gas Shovel
- 1—Browning "F" 1¼ Yd. Gas Crane—72' Boom.
- 1—Byers ½ yd. full revolv. gas Crane—40' Boom.
- 1—27E Rex Paver, 6 cyl. late model, 25' Boom.
- 2—10-ft. and 1—18-ft. Double Sceded Finishers.
- 2—50 and 1—100 Ton —2 & 3 comp. Weigh-Batcher Bins.
- 1—Byers Bearcat Crane with Back Hoe & Skimmer.
- 4—10-Ton, 3-wheel, 4 and 6 cyl. Rollers.
- 2—5-ton, 3-wheel, 4-cyl. Rollers.
- 1—Rex triplex Road Pump, 80 G.P.M.
- 4—Warco motor graders—McCormick-Deering power
- 4—Model 35 Tractors and Bulldozers.
- 2—Berg Highway Surfacers.
- 1—¾ yd. Bay City Tractor Shovel & Trench Hoe.
- 10—7—10—14—21—28S Mixers with batchmeters.
- 8—¾, ¾, 1, 1¼ Yd. Owen Clam Shell Buckets.
- 9—110, 220, 330 ft. Portable Compressors.
- 5—No. 3, 5, 6, 7, 9B2 McK-Terry Pile Hammers.
- 7—2, 3, 4, 6 in. Self-Priming Centrif. Pumps.

"Write for our latest Bargain List"

SERVICE SUPPLY CORP.

20th and Venango Sts. Philadelphia, Pa.

BOILERS

Two 500 HP. STERLING WT Boilers; ASME 200 lb. pressure, with Riley underfeed Stokers. Must move quickly. Location Dover, N. J.

PRICE each \$1,000.00

ENGINE SETS (A. C.)

KVA	Make	Location
325 & 250	Al. Chal. Corliss	Missouri
180	G.E.—Chuse uniflow	Miss.
150 (2)	Al. Chal.—Chuse uniflow	Arkansas
120 (2)	G.E.—Ames uniflow	Miss.
90	G.E.—Chuse uniflow	Kentucky

TURBINE UNITS (A. C.)

KVA	Make	Location
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625	Al. Chal. (Condens)	N. Carolina
375	Wghse (Mix Pres)	S. Carolina
250	Wghse (0-15 lb. b.p.)	Miss.
125	G.E. (0-15 lb. b.p.)	Miss.

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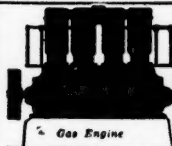
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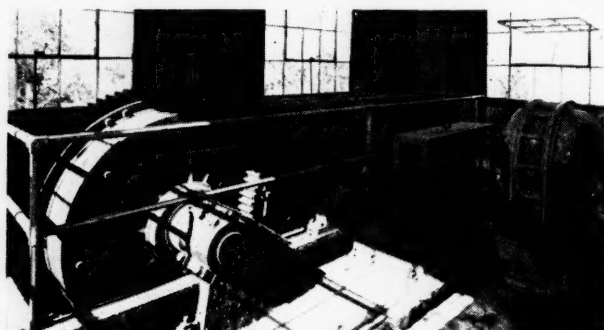
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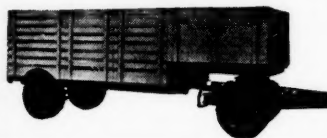
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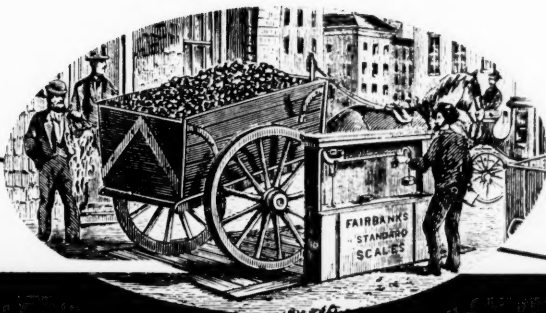
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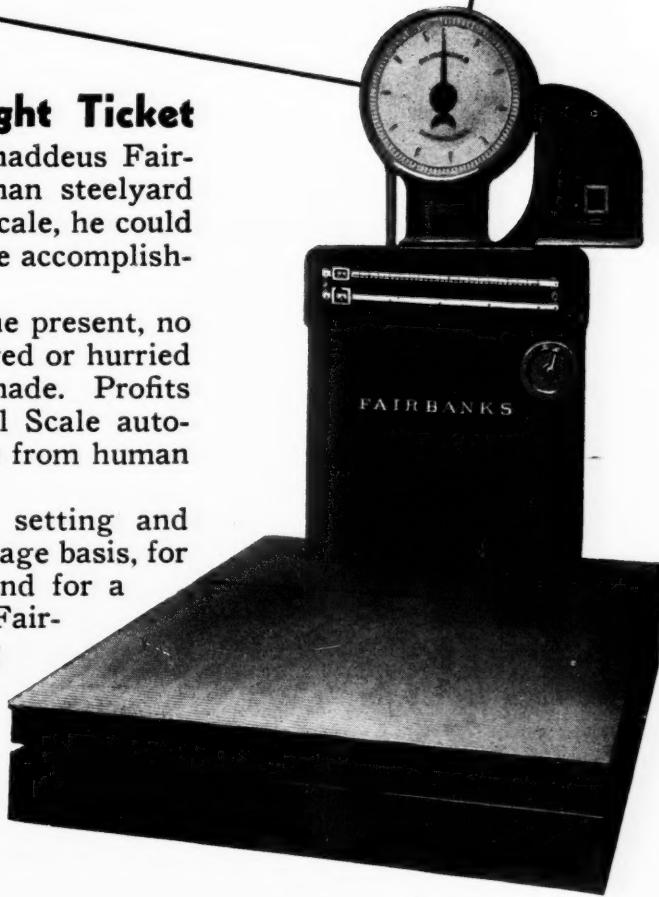
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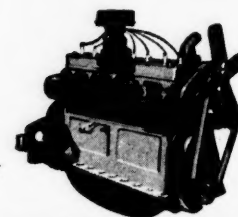
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